REPORT RESUMES

ED 003 730 64
STUDY OF THE USE OF IN-SCHOOL TELECAST MATERIALS LEADING TO RECOMMENDATIONS AS TO THEIR DISTRIBUTION AND EXCHANGE. FINAL REPORT.
BY- MCBRIDE, JACK AND OTHERS
NEBRASKA UNIV., LINCOLN
REPORT NUMBER NDEA-VIIB-035-NO-1 PUB DATE 61
EDRS PRICE MF-$0.27 HC-$5.80 145P.

DESCRIPTORS- *TELEVISION, *EDUCATIONAL TELEVISION, AIRBORNE TELEVISION, CLOSED CIRCUIT TELEVISION, OPEN CIRCUIT TELEVISION, *KINESCOPE RECORDINGS, PRODUCTION TECHNIQUES, *TELEVISION RESEARCH, VIDEO TAPE RECORDINGS, *INFORMATION DISSEMINATION, TELEVISED INSTRUCTION, LINCOLN, NEBRASKA

A NATIONWIDE SURVEY WAS UNDERTAKEN TO LEARN ABOUT THE DEVELOPMENTS OF TELEVISION PROGRAMS FOR DIRECT AND SUPPLEMENTARY INSTRUCTION AT ELEMENTARY, SECONDARY, AND COLLEGE LEVELS. THE STUDY RESULTS LED TO SPECULATIONS ON FUTURE INSTRUCTIONAL TELEVISION DEVELOPMENTS AND RECOMMENDATIONS FOR A PROGRAM DISTRIBUTION SYSTEM. CONTACTS WERE MADE WITH INDIVIDUALS REPRESENTING ALL LEVELS OF FORMAL PUBLIC AND PRIVATE EDUCATION. MAJOR CONCLUSIONS WERE--(1) CONSIDERABLE INSTRUCTION IS BEING PRESENTED LOCALLY BY BOTH BROADCAST AND CLOSED CIRCUIT TELEVISION, (2) A BACKLOG OF TELEVISION INSTRUCTION IS AVAILABLE, (3) A DISTRIBUTION SYSTEM OF RECORDED TELEVISED INSTRUCTION IS URGENTLY NEEDED, (4) AN INCREASING NUMBER OF INSTITUTIONS WISH TO USE TELEVISION, (5) FURTHER STUDY IS NEEDED TO DISCOVER THE BEST METHODS OF USING TELEVISED INSTRUCTION IN THE CLASSROOM, (6) DISSEMINATION OF INFORMATION CONCERNING TELEVISION INSTRUCTION IS NEEDED, AND (7) PRODUCTION AND DISTRIBUTION OF TELEVISION MATERIALS SHOULD BE CONTINUED. SPECIFIC RECOMMENDATIONS, BASED ON THE STUDY, WERE MADE CONCERNING POLICY DECISIONS, CURRICULUM RESEARCH, PERSONNEL TRAINING, PREDICTION, AND PRODUCTION AND DISTRIBUTION CENTERS. (JC)

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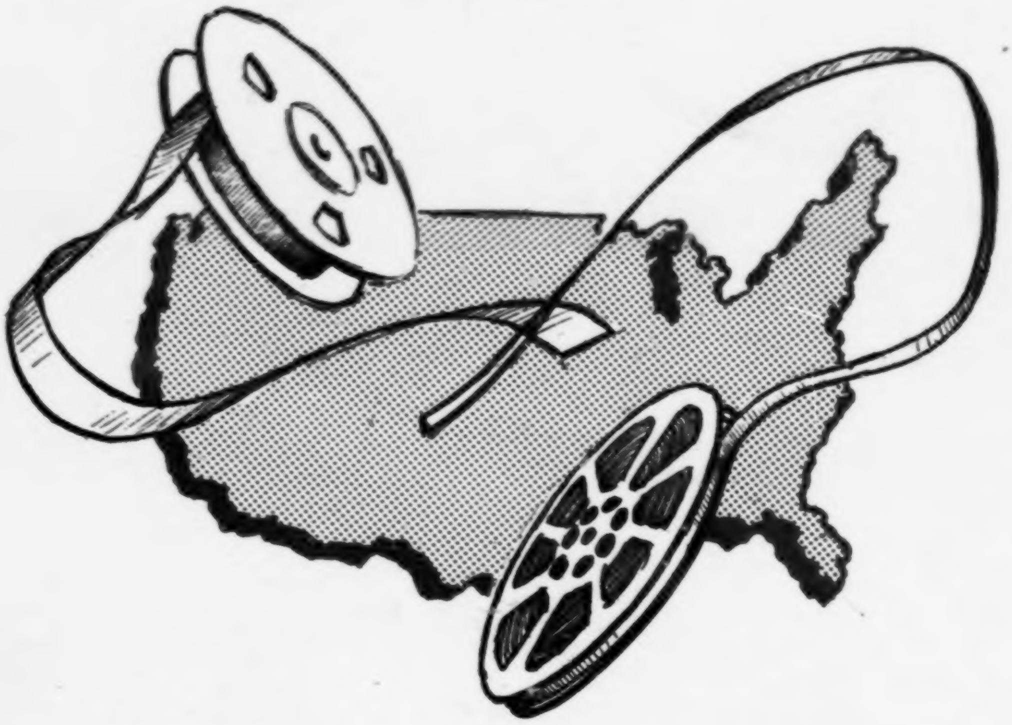

THE UNIVERSITY OF NEBRASKA
LINCOLN, NEBRASKA

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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

1960-1961

FINAL REPORT
OF THE

STUDY OF THE USE OF IN-SCHOOL TELECAST MATERIALS

LEADING TO RECOMMENDATIONS AS TO THEIR DISTRIBUTION AND EXCHANGE

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The project reported on in this publication was conducted pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Additional copies are available at $.50 per copy (to cover cost of handling and mailing) from Station KUON-TV, The University of Nebraska, Lincoln 8, Nebraska.

July 1960 to August 1961

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ACKNOWLEDGEMENT

The Co-Directors are grateful for the assistance of a large number of people who directly or indirectly supported them in bringing together the information contained in this study. The members of the Advisory Committee were particularly helpful in giving appropriate perspective and direction to the inquiry. The Regional Consultants contributed exceptional insights into the nature of instructional television along with the energy and skills necessary to appraise its present status.

The Co-Directors wish to give special acknowledgement to C. Walter Stone, John Meaney, and Seth Spaulding of the United States Office of Education for their assistance and cooperation. Most of all, the Co-Directors express their deep appreciation to Don Grassmeyer, Project Coordinator, who combined the rare capacity of dealing with minute as well as with the large and significant ideas; to Wilma Quattrocchi, whose willingness to assist in every way possible was matched by her enormous productive capacity, and to Esther Montgomery, instructor in English, Lincoln Public Schools, who edited the final manuscript.

June 1, 1961
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CHAPTER I

AMERICAN EDUCATION AND THE ROLE OF NEWER INSTRUCTIONAL MEDIA

The American culture has always been a flexible one, because democracy is a vibrant and dynamic way of life. The present moment is one which gives hints of even greater and more dramatic changes than those of any other time in our history. Some of the forces producing the changes emanate from penetrating insights into the basic philosophy of our democracy. Such intangibles as quality, excellence, authority, responsibility, freedom, and restraint of both the individual and society are examples of the current thoughtful considerations of our people. There are other forces, apparently inexorable and universal, which democracy cannot halt, but which must be recognized, adapted, stimulated, or redirected. Some examples of these forces are industrialization, urbanization, automation, and innovation.

Education is a major institution designated and supported by a democratic society. It has the responsibility, on the one hand of preserving and transmitting accumulated knowledge, and, on the other hand, of considering the current developments and anticipating and preparing for changes not now even imaginable. Education must, therefore, be the "mediator" of all these diverse needs and forces. It must somehow present them in a systematic and lucid fashion, so that students will be able to develop appropriate psychological principles and conclusions.

As a result of local, regional, national, and international forces, our democratic society is in the grip of change and adaptation. Even more so is our educational system. Educators must innovate and create the content. They must develop the most effective means of communicating it in formal educational settings if we are to survive, let alone progress.

Unfortunately, an examination of the history of formal educational systems does not find innovations sufficiently rapid to develop either new methodology or new knowledge. For example, after being practically lost for decades, the "Socratic method" is just now being reapplied to programmed instruction. Walter Cocking, in the published results of his doctoral study at Columbia University in 1951, reports that to bring about a seventy per cent diffusion of an educational practice in schools throughout the United States requires approximately thirty-five years. This statement is supported by an earlier study by Farnsworth which states that complete diffusion of a good school practice takes over fifty years. Unless educational leaders, working with their staffs, lay boards, and the general public, create and utilize systems for the new responsibilities, society may well seek other ways of doing them.

Fortunately, there are some evidences that this situation is changing. For example, recent widespread discussion of the problems and the dilemmas of education was heightened as a result of the sputniks. Education has become a topic of discussion in a wide range of mass media, including newspapers, magazines, radio, and television. There is evidence that the interest and concern of the public in educational changes and improvements are greater today than ever before. Concern is essential, since, as indicated earlier, education is the creature of the society which supports it.

There are other signs which point to significant changes. The educational fraternity is currently concerning itself with the new concepts in such fields as mathematics and science, including both the materials and the experiences necessary for their development. For instance, hardly a single meeting of mathematics teachers takes place without a discussion of "rings" and "sets." Practically every meeting of any type of professionals includes a session on team teaching, automated instructional materials, or instruction via television.

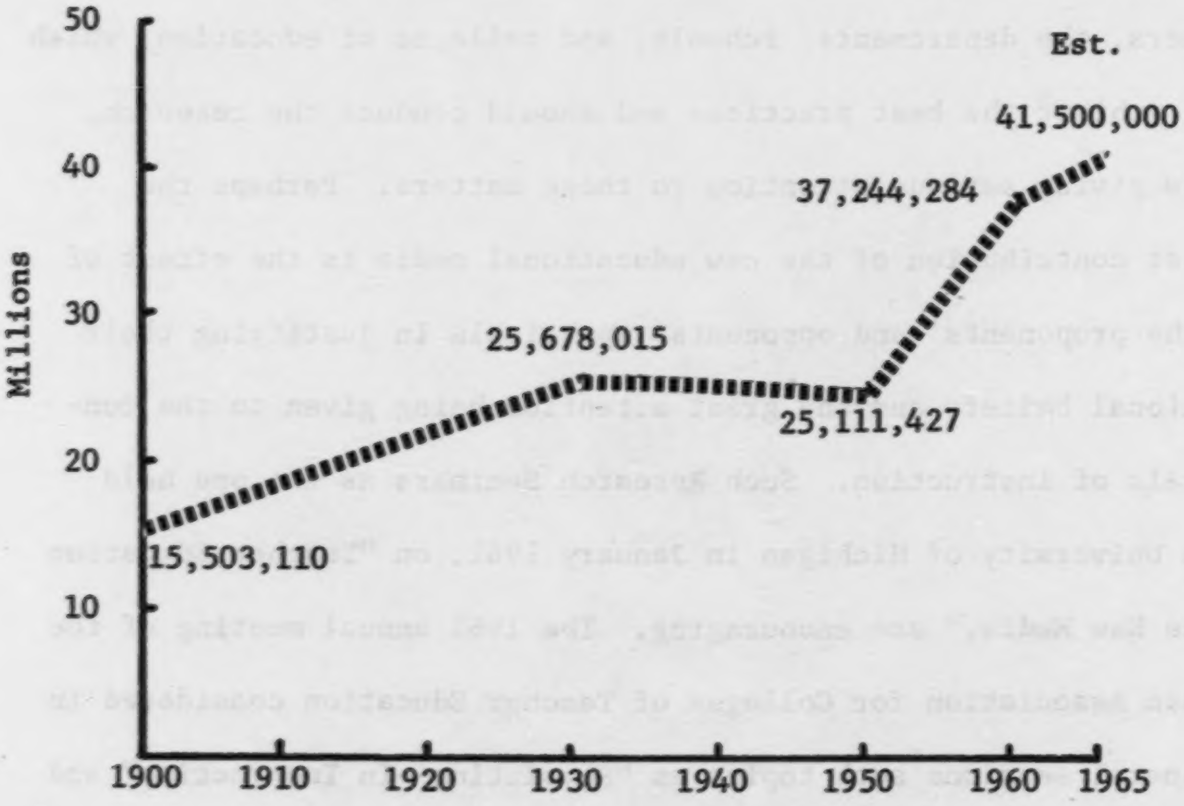
The most hopeful sign of all is that, in addition to the practitioners, the departments, schools, and colleges of education, which should exhibit the best practices and should conduct the research, are now giving serious attention to these matters. Perhaps the greatest contribution of the new educational media is the effect of both the proponents' and opponents' appraisals in justifying their educational beliefs and the great attention being given to the fundamentals of instruction. Such Research Seminars as the one held at the University of Michigan in January 1961, on "Teacher Education and the New Media," are encouraging. The 1961 annual meeting of the American Association for Colleges of Teacher Education considered in its general sessions such topics as "Revolution--In Instruction" and "Teacher Education and the New Media."

SCHOOL POPULATION

In addition to these national trends, there are some obvious facts which must be taken into account. The first and most dramatic is the increasing enrollment at every level. Many references have been made to this phenomenon as one of the major "explosions" of our time. It has different implications, but it is almost equally as significant as are the nuclear explosions. Educators have lived so long in an atmosphere of emergency and catastrophy that these statistics have not been translated into stark reality. Graphically, the situation in public school enrollments is this:

TABLE 1

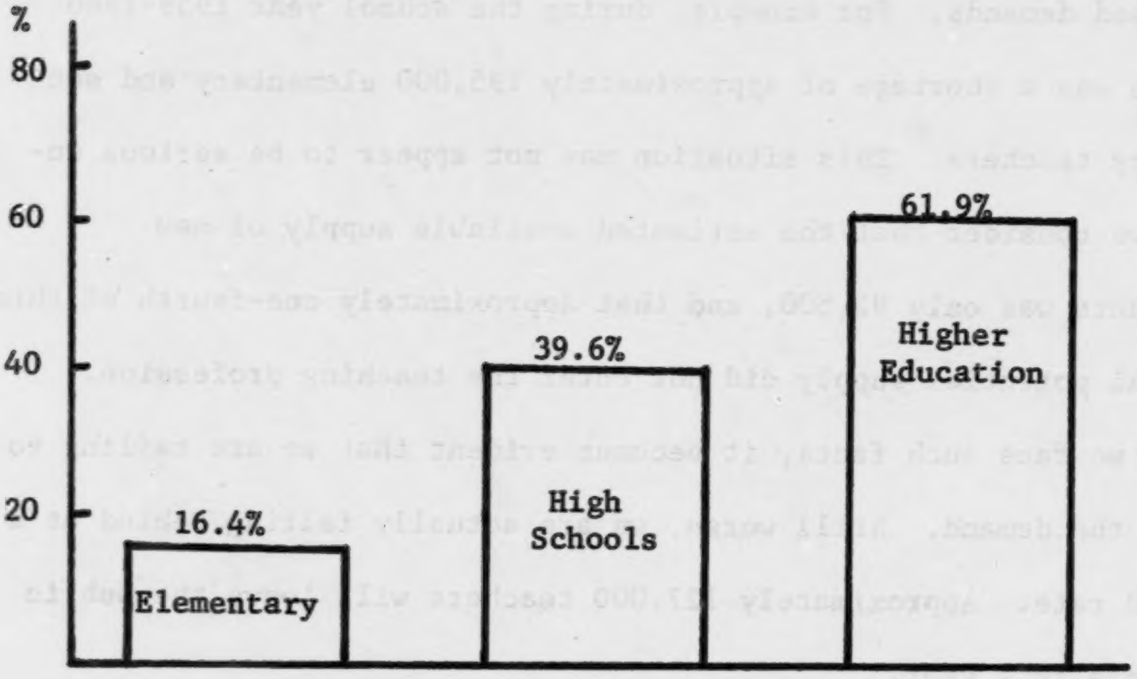
PUBLIC SCHOOL ENROLLMENTS



Another way to approach the problem is to examine the estimated percentage of increase in enrollments in both the public and the non-public schools of the United States as reported in the NEA Journal published in February, 1961. During the next ten years, for example, the enrollments are expected to increase as follows:

TABLE 2

ESTIMATED PERCENTAGE INCREASE IN ENROLLMENTS IN PUBLIC AND NON-PUBLIC SCHOOLS IN THE UNITED STATES FROM 1960-61 TO 1969-70



During this period, K-8 enrollments are expected to increase from 34,200,000 to 39,797,000; 9-12 from 10,200,000 to 14,244,000, and higher education from 3,980,000 to 6,443,000.

Typical of this growth is the junior college program. There were slightly more than 600 junior colleges in 1960, enrolling 900,000 students. By 1970 junior college leaders foresee an expansion to 1,000 schools and 2,000,000 students.

TEACHER SUPPLY AND DEMAND

This avalanche of students gives rise to a wide range of problems. Such matters as sufficient buildings, equipment, and materials are obvious. The United States Office of Education places the nation's classroom shortage for 1960-1961 at 142,000. This is an increase of 6,900 over last year's shortage. Equally as obvious, but not sufficiently considered, is the problem of finding and educating an adequate number of teachers to meet these increased demands. For example, during the school year 1959-1960 there was a shortage of approximately 195,000 elementary and secondary teachers. This situation may not appear to be serious until we consider that the estimated available supply of new teachers was only 92,500, and that approximately one-fourth of this annual potential supply did not enter the teaching profession. When we face such facts, it becomes evident that we are failing to meet the demand. Still worse, we are actually falling behind at a rapid rate. Approximately 127,000 teachers will leave the public schools this year.

It will be noted that these statistics deal only with the problem of new qualified teachers needed to take care of increasing enrollments. Nothing has been said about the inadequate preparation of many of the 1,410,000 teachers now in service. Many are teaching in fields for which they have little or no preparation. Others are teaching in their own fields but have had no upgrading. These teachers represent a critical problem. The elimination of old habits of thinking, behaving, and instructing, and the substitution of new patterns are more difficult to accomplish than is the initial learning process. Thus, another phenomenon is the increasing shortage of new, adequately-prepared teaching staffs, since one out of every fifteen is an "emergency" teacher, lacking full credentials.

NEW KNOWLEDGE

Added to the factors of increased enrollments and insufficient staffs is another explosion--that of subject matter. Various illustrations have been utilized to highlight this aspect of our educational dilemma, but perhaps the most dramatic is the following example: As much new knowledge has been developed during the period 1900-1961 as was developed during all the prior history of mankind. From 1960 to 1970, it is estimated that we will discover as much new information as we have in the past sixty years. Unfortunately, for teachers, more and more knowledge will be produced during each succeeding year, until by the year 2000 we may accumulate, annually, information equal to the total of man's intellectual efforts from the dawn of history until 1900. Imagine, if you can, the problem of the typical teacher attempting to upgrade himself and at the same time synthesize the mass of new knowledge for his students in the year 2000!

Fortunately, we are beginning to accept the idea that the content, or raw materials, out of which educational concepts, principles, and conclusions are effected, are similar--regardless of where the learner lives. For example, the principle taught in

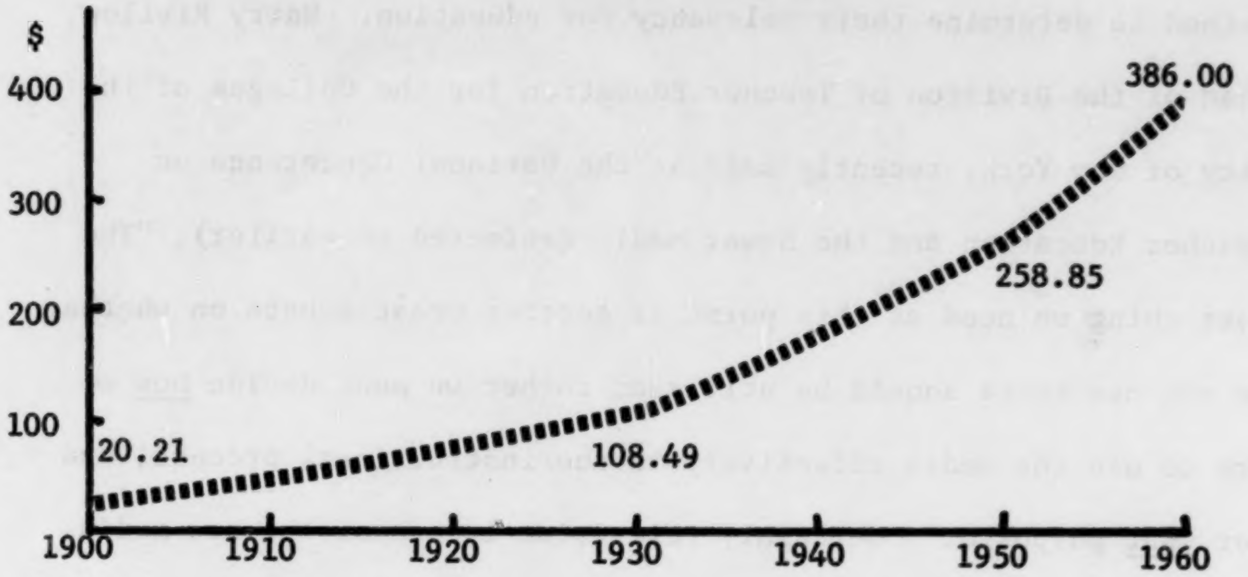
elementary science that the vacuum created above the wing of an airplane lifts the plane, is true whether a child goes to school in Boston, Houston, or Seattle. Textbook writers have always assumed this to be true, or otherwise a basic text could not be used nationwide. This approach still leaves flexibility which most teachers are able to utilize in making local applications and in taking into account the individual capacities of the learners. The possibility that much of the content can be presented by a source other than the teacher gives some hope that the problems of the mass of information may be soluble. By means of this possibility, the traditional role of the teacher is changed somewhat, but that new role is one of increased significance.

FINANCING EDUCATION

Add to these factors the one of financing education. The cost per pupil has been increasing steadily and will continue to increase. Americans have never really determined where they place their values. This is evidenced by their expending for tobacco and alcholic beverages sums of money equal to the entire cost of education at all levels. However, there is a limit as to the resources that are available for education. Assuming no changes in the general format of education, the increased enrollments and subsequent costs may result in expenditures which are astronomical. The cost per pupil increase is indicated in the following table.

TABLE 3

COST PER PUPIL - PUBLIC SCHOOLS



Any one of the factors just discussed should be sufficient to arouse educators and all other citizens from their lethargy. Considered together these factors appear so formidable as almost to defy solution. Certainly, the most creative and active minds in the nation will have to concentrate on many different points if we are to make significant progress. No easy solution is possible but rather many innovations and discoveries--along with some defeats and temporary setbacks.

Dean J. Lindley Stiles, University of Wisconsin School of Education, recently stated at the American Association of Colleges for Teacher Education meeting that, "New electronics aids loom as a threat to many teachers, particularly to those who have taken their mission casually and who are still employing nineteenth century instructional procedures." Educational progress will not necessitate the elimination of all the older teaching devices and techniques.

In meeting these problems many of the newer forms of communication used so effectively by other interests in our society must be examined to determine their relevancy for education. Harry Rivilon, dean of the Division of Teacher Education for the Colleges of the City of New York, recently said at the National Conference on Teacher Education and the Newer Media (referred to earlier), "The last thing we need at this point is another Great Debate on whether or not new media should be utilized; rather we must decide how we are to use the media effectively in the instructional process, and for what purposes." Certainly television is one of the new media.

At a seminar held in December 1959, the Subcommittee on Television of the Commission of Research and Service of the North Central Association of Colleges and Secondary Schools reported the following:

> Now, still in its infancy, television shows such a potential impact upon the collective mind and promises such value for the individual intellect that all educators must face the question, "What can this medium mean for the improvement and extension of education?" The question must be explored in the light of the evidence developed in the last decade regarding the uses of television in education. To put the question aside lightly is to be irresponsible at a time when educators face challenges calling for educational vision and leadership of the highest order, but to embrace the medium without thoughtfully weighing the problem inherent in its most effective use is as unwise as ignoring its existence and availability.

Investigation of one phase of the problem of using television to improve instruction is the purpose for this study. Subsequent chapters will give in greater detail a report of the study.

CHAPTER II

INSTRUCTIONAL TELEVISION TO DATE

In the decade just completed, American education fostered the growth of television from isolated campus experiments to complex systems of closed-circuitry, from timid encounters with the studio facilities of local commercial stations to sophisticated employment of a national network of the vast facilities, from the makeshift use of inadequately converted radio studios to detailed production centers complete with the latest in recording devices, and from campus and school radio stations to companion broadcast television stations.

The American people were introduced to a new social force: the non-commercial, community-sponsored, cultural broadcast service. In short, America experienced the birth of a national movement--the studied and deliberate use of television for educational purposes.

Basically, this educational television programming meets two objectives: (1) an out-of-school informational and educational broadcast service for people of all ages, and (2) an in-school instructional service at the elementary, secondary, and higher levels of education. While the growth and acceptance of non-commercial, informal, afternoon and evening programming have been substantial, instructional television development has been even more impressive. A brief look at the development of educational television, particularly those facets pertinent to instructional television and program

distribution, may help place in appropriate context the examination of the problem.

In 1953 the nation's first non-commercial television station began broadcasting. As of this writing, fifty-five educational channels are operative. Numerous additional facilities, both low- and high-powered, are predicted for activation by educational interests in the coming months and years. Licensees at present are school systems, universities and colleges, state educational television authorities, non-profit corporations and associations, state departments of education, and one municipal library. (See Appendix B.)

A wide variety of non-broadcast, closed-circuit systems perform numerous educational services. Exclusive of military installations, an estimated 300-400 closed-circuit systems are in operation, ranging from the complex facilities of Washington County, Maryland, and the Anaheim, California elementary school district, to the intermediate applications by medical and dental colleges, campuses, and school districts, and to the more simple observational and enlargement situations between and within classrooms of a single building.

A number of national organizations actively support educational and instructional television by providing a variety of research, engineering, legal, professional, programming, promotional, and fiscal services. Prominent are:

Department of Audio-Visual Instruction of the N.E.A.
Educational Media Branch, U. S. Office of Education
Joint Council on Educational Broadcasting

National Association of Educational Broadcasters
National Educational Television and Radio Center
Television Committee, American Council on Education

The preparation and production of instructional programming has developed concurrently with the activation of educational television facilities. Because of shortages of staff, finances, and facilities, and because of corresponding increases in demands for improved quality and quantity, educational broadcasting administrators soon began to look to recorded programming. A considerable body of experience was available. Films have for years been successfully incorporated within instructional endeavors, and a variety of research data and utilization experience was available, largely through the activities of the Department of Audio-Visual Instruction.

For years the National Association of Educational Broadcasters has successfully operated a member-directed recorded instructional radio service. Because of the decade of experience in the production, acquisition, distribution, and utilization of recorded audio-instructional programming, NAEB Network Manager, Robert E. Underwood, Jr., was asked to prepare a summary for this report. (See Appendix F.)

In April of 1954 the National Educational Television and Radio Center began distributing an out-of-school program service to its affiliates. From a package of five hours per week, the service has grown to the present ten hours plus specials. During this time the Center has accumulated a wide range of experience with film, kinescope, and videotape program procurement, production, promotion, distribution, and utilization. An examination of Center experiences provides considerable pertinent data.

An alert Center staff early attempted to assess the recorded instructional television program needs of its affiliates. Certain activities were undertaken to assist. These are summarized chronologically by James Robertson, NETRC Vice-President for Network Affairs, in Appendix G. It should be noted that various NET series, designed primarily for out-of-school viewing, have nonetheless frequently been used with considerable success within local instructional projects.

As funds became available, ETV operations were equipped with kinescope recorders, and many live programs were recorded for reuse. As the need for larger quantities of instructional programming developed, a unilateral exchange of recorded programs between stations commenced. The exchange has taken place sporadically between both adjacent and distant stations. The need for such programming frequently dictated a widespread but unstructured search. Inquiries increased and meetings were called under the auspices of the national organizations, adjacent to planned meetings, as well as independent of them. The need for systematic dissemination of information relative to recorded instructional materials steadily increased.

In 1953 The Continuing Education Service of Michigan State University published a Compendium of Television Courses for Credit, and since that time has yearly revised the list to assist in meeting this need. The NETRC twice polled its affiliates and distributed listings of recorded availabilities. The NAEB Utilization, along with other Committees, has regularly addressed itself to the problem and has provided certain pertinent data. The Office of Education, the past Joint Council on Educational Television, the Department of Audio-Visual Instruction, and the Committee on Television of the American Council on Education have assisted through meetings, workshops, and publications. Yet, no adequate solution was found to a problem which increased in complexity as sophistication developed, and increased in volume as practitioners improved through the employment of research findings.

Through the Fund for the Advancement of Education of the Ford Foundation, the National Program in the Use of Television in the Public Schools was designed. A basic three-year program of both live and recorded instructional television developed through a number of research projects fostered through school utilization. The education division of the Ford Foundation has itself acted as catalyst, providing some of the necessary elements to further the development of instructional television in a variety of instructional settings.

Commercial film producers and book publishers, such as Encyclopaedia Britannica Films, Inc., Coronet Films, Inc., and McGraw-Hill Publishers, Inc., investigated the in-school television market and made exploratory programming ventures. Pertinent data can be provided from the wide ETV distribution and usage given such series as the White High School Physics Course, the Baxter High School Chemistry, and the deRochemont-Heath-NETRC Parlons Français. The Continental Classroom series, under the aegis of Learning Resources Institute, the National Broadcasting Company, et al, offers additional benefit. All these project courses are developed nationally for formal educational individual use by a variety of institutions.

A 1959 Office of Education survey reveals that at least 217 school systems and colleges were teaching courses for credit by television and at least 572 school systems in twenty-nine states made regular use of televised instruction. According to a report made by the Fund for the Advancement of Education in the spring of 1960 more than half a million students received a portion of their education through television classroom instruction. Credit for the Continental Classroom Physics Course was offered by 241 colleges and universities.

A few examples typical of the many developments in process, at the college level, include the Texas Network project, where a closed-circuit network will connect eleven college campuses to enable the schools to share resources by using videotaped lectures and demonstrations. In Minnesota fifteen small colleges cooperatively offer telecourses over the Minneapolis-St. Paul educational station. Florida has five stations linked together at present, with plans for an additional four. This ETV network system is designed to serve twenty-four planned junior colleges. And

Chicago offers a complete junior college program of studies recorded on videotape and kinescope, and presented over "broadcast circuit" television.

Typical of the developments of the use of television at the elementary-secondary level are those at Hagerstown, Maryland, where nearly all of the 18,000 students take part of their classwork over closed-circuit television; Anaheim, California is similarly telecasting instruction to its student body. Some 45,000 students at Dade County, Florida include in their schedule at least one class taught over television. South Carolina has a closed-circuit network including twenty-eight high schools in six urban areas with sixty or more elementary schools receiving televised instruction from two commercial stations.

The 21-inch Classroom in the Boston area has grown from forty-five participating school systems in 1958 to the current 160 systems in four states, which is indicative of the degree to which ETV is being accepted as a valuable tool of teaching. Other developments are proceeding in Pittsburgh, Philadelphia, Seattle, Dallas, Denver, Milwaukee, San Francisco, Alabama, Indiana, Kentucky, Nebraska, Virginia, Maine, New York, and many other areas.

In 1961 the Midwest Program on Airborne Television Instruction will begin telecasting to schools and colleges in the six-state region of Indiana, Illinois, Kentucky, Michigan, Ohio, and Wisconsin. It is estimated that more than 500,000 students in this area will be receiving instruction via television, which will be relayed from an aircraft circling 23,000 feet above an Indiana transmitting station. The curriculum of courses to be telecast beginning in the fall of 1961 is listed in Appendix H. It is planned that the 1962 schedule will be expanded considerably.

Through a grant from the Ford Foundation in 1959, the National Educational Television and Radio Center began to equip its affiliated stations with professional model videotape recorders. A supplementary grant from Minnesota Mining and Manufacturing enabled a basic supply of videotape to accompany each recorder. ETV stations were quick to meet technical and other stipulations necessary for qualification. Once installation had been completed, the local station was provided with new-found operational flexibility, recording economy, and technical improvements over earlier methods. A supplementary grant from the Ford Foundation will enable NETRC to provide recorders for the next twenty-five ETV stations to activate and qualify.

As a result of equipping the stations, the quantity of local program recording has increased markedly. The Center immediately began to shift to videotape distribution. Eventually the out-of-school broadcast package available to affiliates will be comprised principally of videotape recordings, with films and kinescopes used whenever it becomes necessary.

In a further effort to share programming resources, ETV stations have long looked toward interconnection. Each year finds more such linkage. For example, Boston's WGBH-TV shares live programming with WENH-TV at the University of New Hampshire. This latter station has fed to, and received programming from several Maine commercial stations broadcasting educational fare in conjunction with the Maine Department of Education. From its three production centers Alabama's ETV network has long received programming. Three production studios alternate in forwarding programs to a common North Carolina transmitter. San Francisco and Sacramento community stations are connected by microwave and share instructional as well as adult programming. For several years four educational institutions in the State of Oregon have jointly used college level courses through television interconnection. The Oklahoma ETV authority operates a major station which feeds a satellite station.

A number of statewide surveys either have been conducted or are in progress. The major objective is to determine the most economical and feasible method of providing educational television service on a statewide basis, using both present and proposed stations and a system of microwave interconnections augmented by low-power translators. Ohio, Maine, Kansas, and Florida are among those states possessing data from completed surveys. In such states as Montana and Vermont, studies are in progress.

The logical step to follow interconnection between neighboring ETV facilities is regional linkage. Such planning is already in progress. A feasibility study connecting the six states of North and South Dakota, Minnesota, Iowa, and Nebraska has led to the formation of Midwestern Educational Television, Inc. In the

New England area, the Eastern Educational Network, Inc., is an actuality and includes New Hampshire, Massachusetts, Pennsylvania, New York, Vermont, Maine, Rhode Island, and Connecticut. In the South and West, similar planning is underway. The Southern Regional Education Board was among the first to conduct program exchange and interconnection studies. The Western Interstate Conference on Higher Education currently is completing a study dealing with the sharing of instructional resources through television. Many of these network experiences are summarized in the report on the Feasibility and Role of State and Regional Networks in Educational Broadcasting, prepared and published by the National Association of Educational Broadcasters.

During these past years, instructional programming has grown from an ever-increasing number of ETV stations, closed-circuit, and production center studios. A vast body of research data is now available to guide both practitioner and instructor. Acceptance continues to mount as utilization increases, new projects are designed, and facilities are activated. Each year the amount of local instructional production increases and the amount of recorded instructional programming continues to grow. Correspondingly, the need continues unabated for a mechanism to facilitate the acquisition, for local use, of instructional programming produced elsewhere.

Yet, because of the complexity of the problems inherent in the establishment of a system or systems for the distribution of recorded televised instructional programming, to date no adequate solution has been developed.

CHAPTER III

PURPOSE AND DESIGN OF THE STUDY

Even a superficial examination of the status of education is sufficient to reveal that televised instruction has been expanding at a more rapid rate than has been true of any other media now used in instruction. The rapidity with which developments have taken place, however, presents difficulties in making a complete inventory of the purposes for which television is being used in instruction. For this reason, among others, the United States Office of Education contracted with The University of Nebraska to conduct a project under the provisions of the National Defense Education Act, Title VII, Part B. The problem was stated as follows in the contract proposal:

> There has been a great development of television programs for direct and/or supplementary instruction at elementary, secondary, and college levels. Programs have been developed in various parts of the country without reference to similar developments in other parts of the country. There has been a minimum of exchange of information on these materials and practically no exchange of the programs themselves.
>
> It would appear that there will continue to be a larger number and variety of subject matter areas covered. In order to conserve time, energe, and money, it would seem urgent to study the present status of the field; to determine the likely future developments, and to recommend a plan, either national and/or regional, for some type of distribution system.

It was determined very early that the study should be nationwide. Furthermore, contacts were to be made with individuals, representing all levels of formal public and private education. A further criterion was that contact should be made with classroom teachers, administrators, television teachers, television specialists, personnel in state departments of education, executives of associations including the academic and the professional, foundation officials, and employees of government. It was decided that a "television policy" should be developed only after the most thorough questioning of as many people as possible who might be directly or indirectly related to its use. To accomplish these purposes, the study was divided into the several interrelated phases of information gathering, synthesizing of data, and summarizing of results.

The first was the appointment of a National Advisory Committee, carefully selected to represent the groups with a broad interest first in education, and second in television. The Advisory Committee included a president of a major university, a dean of a college of arts and sciences, a dean of teachers college, the executive secretary of the chief state school officers, a superintendent of a major school system, an experienced television administrator, an outstanding curriculum authority, and a person responsible for working directly with classroom teachers. This National Committee gave over-all direction to the project before it began, during its operation, and at its close.

Ten Regional Consultants were appointed to do interviewing in depth. The Regional Consultants included five who were specialists in higher education and five who were similarly active in the elementary and secondary fields. The use of the Regional Consultants brought to the project years of experience and insight into the problems of instruction by television. In addition, each consultant knew the leaders in instructional television as well as the educational experts in his geographical area.

The Regional Consultants assisted in developing the semi-structured interview device which helped in giving direction to personal conferences. The length of interviews varied from several minutes to several hours. Their purpose was to probe the thinking of many authorities concerning the present status of education, its future developments, and of television in all of its forms. Following their exhaustive investigations, the Regional Consultants came together for summary reports and the development of conclusions and recommendations. The number and types of individuals reached by the Regional Consultants were as follows:

TABLE 4

REGIONAL CONSULTANTS' INTERVIEWS

College, University personnel	190
Elementary, Secondary personnel	158
ETV Station personnel	65
ETV Council personnel	30
State Department personnel	43
TOTAL:	486

The Co-Directors of the study were responsible for contacting national organizations relative to extensive interview sessions. These national groups were among those participating in instructional television or having an interest in either educational administration or classroom instruction, and who thus might be involved in television. Among the groups contacted were the following:

American Association of School Administrators
American Association of University Professors
American Council on Education
Ampex Corporation
Anaheim School System
Association for Supervision and Curriculum Development
Association for Higher Education
Department of Audio-Visual Instruction
Eastman Kodak Company
Joint Council on Educational Broadcasting
Learning Resources Institute
Midwest Program on Airborne Television Instruction
National Association of Educational Broadcasters
National Education Association
National Educational Television and Radio Center
National Science Foundation
New Educational Media Branch of United States Office
    of Education
North Central Association
Radio Corporation of America

In addition to face-to-face discussions, information-gathering devices were developed which were directed to both broadcast and closed-circuit television operations. Returns were obtained from all fifty-three of the ETV stations and eighty-eight of the 222 known closed-circuit television operations. Thus, the return represented 100% of the former category, while the latter represented a 40% return.

Since much of the increase in televised instruction is likely to be in public elementary and secondary schools, it seemed desirable to make a wide sampling of such schools. The sample used was one drawn by Dr. Wilbur Schramm, Director, Institute for Communication Research at Stanford University. It provided for a coverage of ninety-seven per cent of the public school enrollment in the country. The size of the schools, the percentage enrollment represented, the size of the sample, and the returns are indicated in the table below:

TABLE 5

SAMPLE OF PUBLIC SCHOOLS

	Student Enrollment	Per cent of Enrollment	Number of Systems	SAMPLE			
GROUP				Number	Ratio	Returns	
1.	12,000 plus	33%	281	281	1:1	164	58%
2.	3,000-11,999	30%	1,722	343	1:5	174	51%
3.	150-2,999	34%	14,204	430	1:33	140	33%

The procedures employed, therefore, included the advice, insights, and suggestions of outstanding educators who served on the advisory panel. Furthermore, individuals serving as regional consultants understood instructional television and thus could give guidance to the co-directors. Their main task was to conduct the penetrating and comprehensive interviews. Conferences were held with personnel operating both broadcast and closed-circuit television stations. Furthermore, to complete the picture, information schedules were sent to all of the institutions using either of these two kinds of installations. Finally, data was obtained by sending information forms to public school systems. The regional consultants also submitted the names of persons they were unable to contact personally. These individuals also responded on the information schedule.

As information was tabulated from these many sources, certain definite patterns developed so that definitive conclusions could be reached and appropriate recommendations made. The whole process

resulted in an enormous mass of information never before gathered and assembled.

The procedures and devices were used in the research for which the contract had been drawn. It is clear, therefore, that the methods used went far beyond either an armchair or a pedestrian type of study. Both this breadth and depth of inquiry with the hundreds of key educators provide the basis for the data presented in the next chapter.

CHAPTER IV

SIGNIFICANT DATA LEADING TO THE CONCLUSIONS AND RECOMMENDATIONS

The information and data collected during this study substantiated the published reports that television in the future will be used extensively at all levels of education. The rapid development of ETV stations and closed-circuit operations, and of school systems using television further attest to this fact.

The data analyzed from the interview reports and the information schedules reveal that, in general, educators have both a definite receptiveness toward the use of television for instructional purposes and a favorable attitude toward the use of recorded instruction. This receptiveness is again evidenced by the rapid development, and especially the support given this medium, not only by the local school personnel, but also by local, state, and national organizations, by state departments of education, by ETV councils, and by others interested in improving education. Naturally, receptivity to the use of television varies between sections of the country as it does between the various educational levels. For example, instructional television has been employed more extensively at the elementary level and has developed more rapidly at this level than at the secondary level; and recorded televised instruction has been more readily received in Southern and Midwestern colleges than it has in Ivy League schools or in the University of California System. It is interesting to note that of all the

educational institutions consulted, the small private liberal arts colleges appear to be least interested in utilizing instructional television.

The quality of televised instruction was frequently discussed. Numerous educators indicated a definite willingness to use recorded televised instruction provided that the quality of instruction was a noticeable improvement over that being produced locally. This qualification appears quite prevalent and must be considered seriously when large scale systems of exchange are established. We can state, however, that there exists a definite climate of receptivity on the part of educators to use both televised instruction and recorded televised materials.

SUMMARY OF THE USE OF LOCALLY PRODUCED TELEVISED INSTRUCTION

How much locally produced instruction is being used over television? Fifty-three ETV stations and a considerable number of closed-circuit operations contributed data for this study. The amount of instruction via television programmed live at the elementary, secondary, and college levels is reported in Tables 6-9, for the years 1957 through 1960. This information provided the initial clue as to the acceptability of televised instruction.

Tables 6-7-8 indicate the total number of courses programmed live for instructional purposes at the elementary, secondary, and college levels respectively. The number of live courses at the elementary level increased from ninety-five in 1957 to 267 in 1960. During the same years live courses at the secondary level increased from eighty-two to 145, and at the college level from seventy-nine to 157. Other relevant data is given in Tables 6-7 and 8 that follow.

TABLE 6

COURSES PROGRAMMED LIVE FOR INSTRUCTIONAL PURPOSES
OVER 53 ETV STATIONS
ELEMENTARY (K-6)

	1957	1958	1959	1960
1. Number of elementary courses programmed live for instructional purposes.	95	135	204	267
2. Number of educational television stations on the air at this time.	30	38	47	53
Average number of elementary courses telecast live by all stations on the air.	3.16	3.55	4.64	5.03
3. Number of stations telecasting live elementary instruction.	16	24	30	36
Average number of elementary courses telecast live by stations programming elementary instruction.	5.94	5.63	6.8	7.41
4. Percentage of stations telecasting elementary instruction.	53%	63%	64%	68%
5. Greatest number of elementary courses programmed live by any one station.	16	21	34	26
6. Least number of elementary courses programmed live by any one station.	1	1	1	1

TABLE 7

COURSES PROGRAMMED LIVE FOR INSTRUCTIONAL PURPOSES

OVER 53 ETV STATIONS

SECONDARY (7-12)

	1957	1958	1959	1960
1. Number of secondary courses programmed live for instructional purposes.	82	111	132	145
2. Number of educational television stations on the air at this time.	30	38	47	53
Average number of secondary courses telecast by all stations on the air.	2.73	2.92	2.80	2.73
3. Number of stations telecasting live secondary instruction.	15	21	26	31
Average number of secondary courses telecast live by stations programming secondary instruction.	5.46	5.28	5.07	4.67
4. Percentage of stations telecasting secondary instruction.	50%	55%	55%	58%
5. Greatest number of secondary courses programmed live by any one station.	18	25	21	13
6. Least number of secondary courses programmed live by any one station.	1	1	1	1

TABLE 8

COURSES PROGRAMMED LIVE FOR INSTRUCTIONAL PURPOSES

OVER 53 ETV STATIONS

COLLEGE

	1957	1958	1959	1960
1. Number of college courses programmed live for instructional purposes.	79	91	161	157
2. Number of educational television stations on the air at this time.	30	38	47	53
Average number of college courses telecast live by all stations on the air.	2.63	2.39	3.42	2.96
3. Number of stations telecasting live college instruction.	18	21	26	29
Average number of college courses telecast live by stations programming college instruction.	4.38	4.33	6.19	5.14
4. Percentage of stations telecasting college instruction.	60%	55%	55%	54%
5. Greatest number of college courses programmed live by any one station.	14	18	18	17
6. Least number of college courses programmed live by any one station	1	1	1	1

Forty-four of the eighty-eight educational closed-circuit operations reporting for this study indicated live instructional programming. A summary is provided in Table 9.

TABLE 9

CLOSED-CIRCUIT LIVE INSTRUCTIONAL PROGRAMMING

	1957-58	1959-59	1959-60	1960-61
Elementary level (K-6)	26	87	115	71
Secondary level (7-12)	10	32	37	27
College level	95	135	159	162

An increase in live programming is shown for each year of operation and level of education, with the exception of the elementary and secondary levels in 1960-1961. No reasons were given for this latter decrease in live programming, but it might be due to the increasing number of programs recorded for reuse. This factor also could have contributed to the decrease in the number of college courses being programmed over ETV stations in 1960. (See Table 9.)

Thus, a review of the data in Tables 6-9 clearly indicates that considerable use is being made of locally produced television instructional programming, and that the total number of televised courses has noticeably increased from year to year.

SUMMARY OF THE USE OF RECORDED TELEVISED INSTRUCTION

Table 10 shows the amount and use of recorded televised instruction for elementary, secondary, college, in-service, and post-graduate education as reported by the fifty-three ETV stations. A more detailed listing of programs available in each subject matter category and at each educational level is presented in Appendix H.

The summary of recorded televised instruction, given in Table 10, is self-explanatory, with the exceptions of Column 5, Types of recording, and Column 7, Instructional purposes. These exceptions are clarified as follows:

Column 5	Column 7
K - Kinescope recording	T - Total Teaching
V - Videotape recording	S - Supplementary Instruction
F - Film recording	E - Enrichment Instruction
	R - Remedial Instruction

Although television serves several instructional purposes, clear cut definitions of the various uses have not as yet been standardized. It is necessary, therefore, to include such definitions as were developed for the purpose of this study. These definitions are as follows:

T - TOTAL TEACHING - Instruction is provided almost entirely by the studio teacher, with little or no assistance from the classroom teacher. This type of teaching is more prevalent when teachers of highly specialized subjects are not available, or when a decisive shortage of teachers exists in any area. The term "major resource" is sometimes used instead of "total teaching," especially when the classroom teacher conducts important additional activities in connection with the lesson. The classroom teacher, in these cases, provides the coordination between the studio presentation and the classroom activities.

S - SUPPLEMENTARY INSTRUCTION - The instruction covers in general the same content as is ordinarily covered by any teacher, except that it is presented in a different manner, thus highlighting the subject matter.

E - ENRICHMENT INSTRUCTION - The instruction is related to the subject content, but introduces desirable (but not essential) material that could not be presented conveniently in any manner except through the medium employed.

R - REMEDIAL INSTRUCTION - The instruction serves to build an understanding comparable to that possessed by other students in any specific area of study. It is usually presented via television as a total or major resource type of instruction.

Table 10 reveals that a total of 199 recorded courses at the elementary level was reported with ninety-six courses currently available for exchange. Seventy of the 103 recorded courses at the secondary level were reported as available for exchange as were seventy of the 135 recorded courses at the college level. Eleven of the sixteen recorded courses for in-service teacher education were listed as available. The details of these 453 courses and the eighty-three recorded courses used on closed-circuit and other television broadcast operations are found in Appendix H, in addition to the recorded courses listed by the Midwest Program on Airborne Television Instruction and by the National Science Foundation.

The information schedule used in the survey did not request the specific reasons for the recorded courses listed as "not available for exchange." However, the reasons given on some of the interview reports are as follows:

1. The material was recorded for a particular use, and at that time there was no indication that someone else could or would use the instruction.

2. The producer, the teacher, the holder of title, and others had not agreed upon proper and adequate contractual and residual arrangements.

3. Producers had decided that revision would be necessary before the holder of title would agree to release the instruction.

4. Copies of the recorded instruction were not available for distribution because of the cost of duplicating.

None of the above reasons seems insurmountable.

Further study of the information reveals that public and private school systems are using recorded instruction from sources other than their own. Of the total 453 recorded courses reported by the fifty-three ETV stations, sixty-six recorded programs of instruction were leased, twelve were purchased, and thirteen were exchanged. A significant deterrent to the use and distribution of recorded televised instruction is seemingly the lack of information concerning the availability of such instruction from other institutions and organizations. Apparently most of the programs that have been exchanged were advertised by the "word of mouth" type of communication at professional meetings and by printed information distributed by the National Educational Television Radio Center.

A substantial amount of recorded instructional programming (more than many recognize) is in existence and available. A second body of recorded programming was reported as "potentially available," provided certain technicalities could be met. The instructional content, the educational methodology, the television quality of

TABLE 10

SUMMARY OF RECORDED IN-SCHOOL TELEVISED INSTRUCTION
53 ETV STATIONS

SUBJECT AREA	Number of recorded courses in each subject area	Range of the number of lessons in each course	Average number of lessons for each course	Range of the length of lessons in minutes
ELEMENTARY (K-6)				
Science	53	3-128	20.7	15-30
Mathematics	11	3-69	15.5	14-30
Social Studies	40	4-90	12.9	15-30
Language Arts	28	6-189	27.1	15-30
French	9	15-128	77.6	14-30
Spanish	17	8-130	53.2	10-30
Russian	2	90	90	90
Music	28	1-72	14.7	14-30
Art	11	2-16	6	15-30
TOTAL	199			
SECONDARY (7-12)				
Science	27	7-160	43.8	15-30
Mathematics	6	4-126	52.5	20-30
Social Studies	31	4-128	16.5	15-120
Language Arts	18	7-80	29.2	15-30
Music	4	15-60	16	8-35
Art	5	8-13	10	15-30
Others	12	4-36	13.4	15-120
TOTAL	103			
COLLEGE				
Science	21	8-170	52.9	30-50
Mathematics	22	15-160	47.2	29-45
Social Science	17	12-90	31.2	30-50
Language	33	4-87	31.6	30-50
Philosophy	14	30-90	40.8	30-60
Psychology	8	10-75	32.1	30-50
Business	11	10-82	38.5	29-50
Fine Arts	3	20-48	32.6	30
Agriculture	2	34-45	39.5	45
*Education-(History of)	4	15-36	29.7	29-30
TOTAL	135			
***IN-SERVICE TEACHER EDUCATION**				
	16	2-42		25-45
TOTAL	453			

*1 course post-graduate

Types or recording			Number of courses with study guide	Instructional purpose				Availability	
K	V	F		T	S	E	R	YES	NO
32	15	6	40	4	30	19	-	21	32
10	1	-	8	1	5	5	-	6	5
32	6	2	26	-	21	19	-	21	19
19	9	-	22	2	14	12	-	14	14
4	5	-	9	6	3	-	-	7	2
8	9	-	15	5	6	6	-	12	5
2	-	-	2	2	-	-	-	2	-
20	7	1	22	-	17	11	-	10	18
11	-	-	9	-	10	1	-	3	8
138	52	9	153	20	106	73	0	96	103
10	11	6	24	9	10	8	-	17	10
3	2	1	4	2	3	1	-	3	3
21	5	5	23	1	15	16	-	23	8
13	5	1	17	7	8	3	-	13	5
1	1	2	4	-	2	2	-	4	-
4	-	1	5	-	2	3	-	4	1
7	3	2	7	2	6	4	-	6	6
59	27	18	84	21	46	37	-	70	33
10	14	2	17	17	4	-	-	13	8
15	14	1	19	18	4	-	1	12	10
10	13	-	10	12	4	3	-	9	8
19	25	-	19	19	25	-	-	16	17
5	9	-	10	10	4	1	-	5	9
4	4	-	2	7	-	2	-	4	4
7	9	-	9	8	2	1	-	4	6
2	1	-	2	2	-	1	-	3	-
-	2	-	-	2	-	-	-	2	-
2	4	-	2	3	1	-	-	1	3
74	95	3	90	98	44	8	1	70	65
6	8	2	12	14	-	2	-	11	5
277	182	32	339	153	196	120	1	247	206

production, and the degree of technical excellence contained in the recordings admittedly varies from "quite acceptable" to "inferior," and (in some cases) "unusable." It is not the purpose of this study to analyze and evaluate the available recorded programs of instruction, although such evaluation is recognized as being essential to wide usage. Many respondents to the study indicated that program evaluation is imperative to facilitate the extensive use and distribution of recorded televised instruction. Evidently, a need exists for information similar to that published in a report by the NETRC in July 1958, entitled "An Instructional Utility Analysis of 319 Educational Television Programs."

Recognizing that current recorded series contain certain quality restrictions of one sort or another, respondents often indicated an unwillingness to use these materials in other instructional situations. Oddly enough, the implication seems to be that these inferior instructional efforts are acceptable for reuse in the local educational enterprise.

While there exists a considerable reservoir of recorded instructional programming, and undoubtedly the efforts to provide improved recorded materials will continue, we should note that not all material will be available or acceptable for distribution or exchange unless some system of quality control is provided. Once again, then, we must stress the importance of quality in any consideration of continued and expanded use of these recorded materials. The methods of such control, developed by the Midwest

Program on Airborne Television, may serve as a model. In this instance, quality control is effected for each course and program through a rigid system of evaluation in four areas: subject matter content, educational methodology, television production, and technical excellence.

TELEVISION RECORDING EQUIPMENT

If recorded televised instruction is to be used widely, adequate recording and playback equipment must be available. Thus, it was necessary to ascertain what equipment was in use at the ETV stations and closed-circuit installations. Table 11 and Appendix H show that fifty ETV stations possessed equipment for the recording and the playback of videotapes; thirty-five had kinescope equipment; and thirty-six had film recording equipment.

TABLE 11

ETV STATIONS REPORTING RECORDING EQUIPMENT AVAILABLE AS OF 1960

YEAR ETV STATIONS established	STATIONS beginning operations	KINESCOPE	VIDEOTAPE	FILM
*1950	1	1	1	1
1953	2	-	2	1
1954	7	7	7	7
1955	7	7	7	6
1956	5	4	5	5
1957	6	5	5	3
1958	8	5	8	4
1959	9	4	8	6
1960	8	2	7	3
TOTALS:	53	35	50	36

* Non-educational license.

Table 11 shows that thirty-six ETV stations reported film equipment available, and twenty stations that began broadcast operations between 1950 and 1956 reported film recording equipment available. Sixteen stations that began broadcast operations in the period between 1957 and 1960 reported having film recording equipment available, and fifteen additional stations that began telecasting during this time did not have film recording equipment available.

Thirty-five of the fifty-three ETV stations reported having kinescope recording equipment. Nineteen stations activated between 1950 and 1956 reported having kinescope recording equipment, and only three stations reported to the contrary. Sixteen ETV stations beginning broadcasting between 1957 and 1960 reported such equipment and fifteen reported in the negative.

Only three ETV stations (none affiliated with NETRC) reported not having video recording equipment. All indicated a great need for this equipment, and cited the initial high cost as the prohibiting factor. Four stations reported having more than one video recorder. Many other stations indicated that they have a great need for an additional videotape recorder, but have been unable to finance its purchase.

It is evident, therefore, that in the main, ETV stations possess the necessary recording and playback equipment to make exchange feasible.

The recording methods varied at the elementary, secondary, and college levels as is shown in Table 12. The types of recordings reported by the fifty-three ETV stations for the different levels of instruction are as follows:

TABLE 12

TYPES OF RECORDED INSTRUCTION

	KINESCOPE	VIDEOTAPE	FILM
Elementary	138	52	9
Secondary	59	27	18
College	74	95	3
Graduate and In-Service Teacher Education	6	8	2
TOTAL:	277	182	32

The information schedule, Appendix C, submitted to 222 closed-circuit operations at educational institutions, and compiled from eighty-eight returns, revealed that fifteen stations had kinescope recorders, twenty-nine had film recorders, and eight had videotape recorders. The types of equipment in use by these closed-circuit operations are shown in Appendix H.

INSTRUCTIONAL TELEVISION AND THE PUBLIC SCHOOLS

In the preceding sections of Chapter IV emphasis has been given to the transmission and recording of televised instruction. ETV stations and recording equipment are certainly necessary, but even if they do exist, school systems may not utilize television. It was essential, therefore, to obtain a picture of the extent to which public schools are using televised instruction, and to learn the purposes which it serves. To gather facts about the present use of television for instructional purposes, an information form was sent to public schools according to a sample developed by Schramm, as described in Chapter III.

The results indicate that in the school systems categorized in Group 1, which have one-third of all the public school enrollment, instructional television was used by two-thirds of the reporting districts, as is shown in Table 13.

TABLE 13

PUBLIC SCHOOL SYSTEMS USING TELEVISION FOR INSTRUCTIONAL PURPOSES

GROUP	Schools Reporting	Using Television	Percentage
1. 12,000 or more	162	110	68%
2. 3,000-11,999	174	63	36%
3. 150-2,999	140	22	16%
TOTAL:	476	195	41%

Assuming that the schools not reporting would have been using television to about the same degree as those who did reply, approximately 8,000,000 of the 36,000,000 pupils enrolled in public schools are in systems that reported using instructional television. When the Groups 2 and 3 are similarly considered, it appears that another three to four million students may be added to this list. Therefore, approximately one-third of the students are in schools using television. They represent the potential receivers of television instruction in one or more subjects at every grade level.

Reports from the 283 school systems not using television indicated that although a strong desire exists to use this medium for instruction, broadcast and receiving facilities are currently unavailable. Thus, there apparently will be a much greater use of television if and when transmitters become more generally available.

The extent to which school systems are using recording televised instruction is indicated in the following table:

TABLE 14

PUBLIC SCHOOL SYSTEMS USING RECORDED TELEVISED INSTRUCTION

GROUP	Schools using Television	Schools using recorded televised instruction	Percentage
1. 12,000 or more	110	61	55%
2. 3,000-11,999	63	19	30%
3. 150-2,999	22	15	68%
TOTAL:	195	95	49%

Almost one-half of the school systems who reported using television are doing so with some pre-recorded materials. It is interesting to note that fifty-five per cent of the largest schools (Group 1) are using one or more recorded instructional series where, presumably, the local resources would make possible the greatest number of live telecasts.

School systems reported that recorded televised instruction was being utilized for total, supplementary, enrichment, or remedial instruction. These terms have already been defined in this chapter. Although not listed in Table 15, there were four recorded televised courses listed as in-service teacher education by schools in Group 1. Again, the larger schools made greater proportional use of television for direct instruction.

TABLE 15

TYPE OF RECORDED INSTRUCTION

GROUP	Total	INSTRUCTION Supplementary	 Enrichment	 Remedial
1. 12,000 or more	12	32	24	3
2. 3,000-11,999	7	9	2	1
3. 150-2,999	1	4	4	0
TOTAL:	20	45	30	4

The summary of the reasons for using recorded televised instruction is shown in Table 16.

TABLE 16

REASONS FOR USING RECORDED INSTRUCTION

GROUP	Increased enrollment	Improvement of instruction	Curriculum expanded	Reduce costs	Teacher shortage
1.	4	32	19	1	4
2.	1	9	2	1	0
3.	-	4	4	1	1
TOTAL:	5	45	25	3	5

The use of television for the "improvement of instruction" was cited more frequently as a reason than all of the other reasons combined. The use of television to "decrease school costs" was checked by the least number of school systems.

Table 17 indicates those schools, reported in Table 14, using recorded televised instruction from sources other than their own. Forty per cent of such school systems obtained part or all of their material from sources outside their own system. Again, the larger school systems made more use of material produced outside their systems than did the small schools. The reason given for not using recorded televised instruction was "lack of availability of material."

The recorded instruction used from other sources was received from state departments of education, universities, other school systems, ETV stations, NETRC, and commercial enterprises. The respondents indicated that they learned about the existence of other recorded programs of instruction from ETV stations, from the NETRC, from state departments of education, and from personal contacts. These people expressed a definite willingness to use recorded instruction from other sources if it met their established criteria.

However, the school systems indicated that they received little information about the sources of recorded televised instruction. They were emphatic in requesting the establishment of a system that will provide complete up-to-date listings of available instructional series. Only thirty-six of the 246 school systems reporting on this item indicated that they were receiving information; whereas 210, or eighty-five per cent, replied negatively.

Since public schools have been and, in all probability, will continue to be the largest users of recorded televised instruction, it was important to obtain their suggestions regarding the location and types of distribution centers. Table 18 summarizes this most important information.

TABLE 18

EXCHANGE AND DISTRIBUTION PLAN

GROUP	Regional Center	National Center	Commercial Center	State Dept. Center	County Center
1.	99	40	9	7	2
2.	105	26	17	15	2
3.	69	8	8	1	2
TOTAL:	273	74	34	23	6

The public school systems decisively favored the regional center exchange and distribution plan, contributing a great variety of suggestions about the organization of such bureaus. However, the preferred plan was the use of the established audio-visual instructional centers. Such systems favored either a separate television division organized within an experienced, regional audio-visual center or one that could be expanded for regional service. Respondents stressed the fact that the national and regional centers should be organized with educators involved in order that the needs of the consumers of instructional programming be adequately recognized.

DISPOSITION TO USE TELEVISION FOR INSTRUCTIONAL PURPOSES

The exhaustive and thorough interviews conducted by the ten regional consultants, each an experienced specialist in the field of instructional television himself, clearly corroborated the findings and trends stated earlier. As the study progressed, it became increasingly evident there is a need for the dissemination of information concerning developments in the use of instructional television

and in the exchange of such programming. This need continues to increase in direct proportion to the activation and expansion of facilities and projects. It was clearly evident that the educational institutions and organizations, both public and private, have been needlessly duplicating many efforts and expending large amounts of money and talent in developing instructional programs without reference to similar developments elsewhere. During the course of their interviewing, the regional consultants frequently reported requests for an informational exchange, so that research findings and experiences could be profitably utilized, duplication avoided, and local programming strengthened.

There is a consensus of opinion that the limitations of time, staff, facilities, and budget in local instructional television programming are, even under optimum conditions, real and formidable. Given the use of certain quality recorded instruction (which in no way weakens, but rather strengthens the local program), the individual educational project could direct personnel and production funds toward fewer courses.

The processes described earlier provided the means of a wide range of opinions and attitudes towards all aspects of the use and distribution of recorded televised instruction. Upon analysis, however, certain additional trends and generalizations emerged from the interviews. These can be summarized as follows:

1. There is real and increasing interest in the use and exchange of recorded televised instruction.

2. **The school systems with the broadest experience in using television within the classroom are generally most amenable to recorded televised instruction and consider it a means of improving instruction.**

3. **Clearly defined functional and operational plans for an exchange system have not been agreed upon, although the benefits to be derived from a workable system are fully realized.**

4. **Among those currently using instructional television, and among the potential consumers as well, there was considerable willingness to support the reasonable financial costs of recorded instructional exchange and distribution.**

5. **Institutions hesitating to use recorded televised instruction will be less apprehensive when shown that quality materials will clearly improve their curricula and quite possibly at less cost than that necessary to originate such instruction locally. Evidence of this is revealed by the use of the series "Parlon Français."**

6. **The use of quality recorded instruction in an effective and efficient manner may help provide a breakthrough in traditional teaching methods.**

7. **As additional information is made available through publications, workshops, courses, meetings, and actual involvement in television instruction, the classroom teacher's fear of being replaced is rapidly being dispelled. Television will not bring about unemployment, but used wisely and effectively will definitely improve the quality of instruction. In addition, it often permits the redeployment of educational facilities, resources, and personnel in such a manner as to bring about additional educational services, smaller teaching groups, individual counselling, etc.**

8. **Recorded televised instruction for in-service teacher education will be utilized much more fully in the near future.**

9. The state-supported colleges and universities, large and small, and the large private institutions are using television, or are willing to use it. They will consider using recorded televised instruction from other sources when it is superior to the instruction they can provide, or if it will strengthen their curricula. The small private institutions prefer to limit enrollment in keeping with their resources, but some were willing to investigate the use of television.

10. Schools at the elementary, secondary, and junior college levels are experiencing increased enrollment at the same alarming rate as are the colleges and universities. Adequate competent staffing is a serious problem, and the use of recorded televised instruction is foreseen as a means of providing part of the future quality instruction.

11. While all recognize the problems inherent in the establishment of a system of exchange and distribution, so far few can describe clearly to the total problem in all its complexity, let alone provide recommendations or solutions.

Those interviewed expressed a definite interest in recorded televised instruction if available under a combination of the following conditions:

--Recorded televised instruction must--

1. be of good educational and technical quality.
2. meet the needs of the consumer.
3. be educationally sound.
4. be accompanied by a good teacher's guide and other necessary explanatory materials.
5. be produced by an experienced television teacher and crew, with edited instructional methods.

6. be inexpensive, and must not effect great profits above production costs.
7. be constantly reviewed for revision and updating.
8. be superior to instruction produced locally.

FEASIBILITY AND ORGANIZATION FOR A SYSTEM OF EXCHANGE AND DISTRIBUTION

It is evident that there is a sufficient quantity of recorded televised instruction available to warrant the establishment of pilot regional centers and/or a national center for distribution. Some necessary equipment is available for recording and playback purposes, and the public school systems are already utilizing a considerable amount of recorded televised instruction and are willing to use more. Although the need for quality recorded instruction has been mentioned repeatedly, the data indicated that this quality would not improve noticeably until some type of distribution system can be initiated to alleviate the great amount of duplication in time, energy, and resources. Eliminating this duplication would afford institutions and organizations at all levels the possibility of expending equal monies and at the same time securing better material. This could be done by providing fewer programs but doing them well, and in using recorded series from other sources.

Support for the development of some system of distribution had been suggested previous to this study. ETV station managers, confronted with a dire need for instructional materials, have long clamored for the establishment of exchange. A Seminar held in 1959 by the Division of Audio-Visual Instructional Service of the National Educational Association adopted thirteen recommendations for using television. One of these supports the exchange of recorded programs and reads as follows:

> "We should initiate a means by which a voluntary exchange of videotaped resources can be made possible on a nation-wide scale. If local educational television stations are to exchange programs with other stations, school districts with other school districts, then there must be iniated a means by which this exchange of video resources can be made possible on a national scale. No individual school district can, or should, undertake to produce all of its television programming, anymore than it can undertake the production of all its own films or other audio-visual materials. Each community has resources unique to its own area which could form the basis for a program series which could profitably be shared with many other communities. For example, a series of programs produced by the Detroit Public Schools on Greenfield Village Museum could be taped for use by many school districts; an Americana series featuring historic shrines throughout the United States and produced by local districts has already been mentioned earlier in this report; similar series on industrial and economic resources of a given area might also be exchanged. This would encourage local initiative in programming and yet be a means of making the unique resources of one area available to other areas."

Education has always been a local and state function in the United States. Because of this historic development, each school system, as well as each teacher within the system, has to a considerable degree been autonomous. The national school system of the United States is not comparable to that of many other countries, especially Europe, with reference to curricular content. As a consequence, local school systems adopt instructional materials for a

variety of reasons, including local application, philosophy of the school system, and respect for the authors and producers of the material.

Because instructional television may be used in many school systems, even cutting across state boundaries, it is necessary to understand the unique interaction and status of the various American professional associations and organizations. If these are not understood or considered, we may possibly encounter complete rejection of programs by local educational institutions.

In higher education most of the organizations are academic and related to a specific discipline or part of a discipline. These groups are generally organized on a vertical basis to include the specialists in specific fields: The American Psychological Association, American Library Association, and the Mathematical Association of America are examples. The members of these organizations may have some interest in related disciplines, but for status and professional reasons their major attention is given to the organization in their own subject matter area. On college and university campuses, therefore, groups such as the American Association of University Professors and the Association of Higher Education of the NEA (which are horizontal in organization to include all disciplines) do not elicit the same kind of loyalty and support as do the organizations in the content areas.

When one moves to the secondary school level, he finds organizations which are both vertical and horizontal in scope. Such groups

as the National Council for the Social Studies, the National Council of Teachers of English, and the National Council of Geography Teachers, are examples of vertical groups where the major emphasis is on content. Other groups, such as the Association for Supervision and Curriculum Development, the Department of Audio-Visual Instruction, and the National Association of Secondary School Principals, are groups which are organized horizontally, including individuals with all types of subject matter background. There the major force which brings the individuals together is a professional one. At the elementary level most of the organizations are horizontal in nature, such as the Department of Classroom Teachers, the International Association of Childhood Education, and the Department of Rural Education. It is true that many educators belong to more than one of these groups, but the groups themselves give major attention to either content or professional matters.

If, therefore, a local school system is to be receptive to the use of a recorded televised course (for example, third grade arithmetic), it must know whether individuals with stature in the field of arithmetic have given their general approval to the course. This is in addition to the assurance that it is being taught by an adept television teacher. The expertness of the teacher will not alone convince a school that it should make use of the material.

For widespread success, therefore, it will be necessary to develop appropriate advisory committees representing the whole range of educational interests in the United States. Representation must include academic and professional interests, administrative and supervisory personnel, staff members from state departments of education, and classroom teachers. This group can give over-all direction to the development of sound policies of operation and at the same time identify the desirable areas for recorded televised instruction. Parenthetically it should be noted that the Advisory Committee of this study represented these types of interests and backgrounds.

After the general areas are defined, it will be necessary for the over-all committee to appoint subcommittees dealing with each content or subject matter area. These sub-committees will have content specialists, instructional specialists, and representatives of the appropriated professional group or groups working in conjunction with a television production team.

NATIONAL DISTRIBUTION AND PRODUCTION

For most educational institutions, the acceptance of the idea that instructional materials such as textbooks, reference books, magazines, filmstrips, and motion pictures should be distributed nationally took place sometime ago. Some textbooks, for example, are used in from seventy-five to ninety per cent of the country. It would seem appropriate, therefore, that courses of instruction via television should be distributed nationally, assuming that there is some opportunity for choice from among two or more instructional series.

In view of the fact that texts and other instructional materials determine the curricula to a considerable degree, there has always been some uniformity of purpose and approach in the classrooms. In addition, there are increasing demands to give greater attention to national goals through some type of national study groups. The purpose of most proposals is to discourage schools from developing rigid curricula structures with little if any opportunity for creative activities meeting local needs. Rather, the purpose is to give overall direction with greater agreement on purposes and objectives, especially in those areas of the educational program which are critical to our own survival. National bodies may be established to determine both purposes and a specific content. Examples of such national groups are the Physical Science Study Committee, The Chemical Bond Approach, and the Biological Science Curriculum Study. In any case there will be more consideration of the common essentials in content, regardless of what institution a student attends. All of these developments add up to a greater likelihood that educational institutions will in the future consider recorded televised instruction much more favorably than has been true in the past.

First, commercial production and distribution will continue as at present. According to information from the various companies, series which have been produced exclusively for television, such as "Parlons Français" by Heath-deRochemont, will continue to increase. Other series, like "Modern Physics" by Encylopaedia Britannica Films, Inc., produced for television, as well as classroom use via film, will also continue to appear in greater number.

Second, the organization designated to be responsible for the non-profit distribution and production of recorded televised instruction must meet a number of criteria. (1) It should be an agency which has had considerable experience with educational television and with the distribution and production of recorded materials. Since, as this survey so clearly indicated, instructional television is quite different from other kinds of television programming, the national organization must activate a division which will deal exclusively with instructional television. It must be headed by a person with an appropriate title in the organization to indicate clearly the significance accorded such programming. The person himself must be someone knowledgeable in both television and education. In addition, a national advisory committee must be activated for the reasons and purposes outlined in the preceding section. It, in turn, also will appoint appropriate subcommittees.

The productions authorized by the advisory committee and developed by the appropriate subcommittees will be undertaken at various centers which have the required personnel and facilities. There will be not just a single national production center, but rather a number of locations where high quality series have been produced in the past, and which have the potential to do superior production in the designated subject.

Since the subject of quality in productions has arisen so frequently in this study, the national distribution center must develop vehicles through which technical, production, content, and methodological superiority can be assured. It will be necessary, of course, for the national organization to identify, evaluate, and make information available about the instructional series being cleared for national distribution.

There are other questions that will need further attention and study. The distribution of available recorded materials and the production and distribution of new instructional programs of high quality will require financial support beyond that available from educational institutions. Such financial support may come from either foundation or governmental sources, or both. In either case, monies made available must be under the direction and supervision of the centers, with complete freedom for action within their own groups. This is essential in order to avoid protests of outside control of the curricula. The whole matter of the financial arrangements which will eventually make the system self-supporting will need intensive research. The cost of the recorded televised series will have to be adequate to cover cost of duplication, administrative costs (including the advisory and subcommittees) and financial returns to the original producer. The computations should be made in such a manner that the original producer will receive a portion of his original costs so that he can undertake further production. The charge to a local institution should be high enough to preclude its obtaining all instructional material from a center, thus avoiding the assumption of its own fair share of the costs. On the other hand, the fees should be sufficiently moderate so that the institutions might use the material at a figure lower than local production.

Other problems, such as legal matters, attitudes toward recorded televised instruction, and the mechanics involved in national distribution, will require specific attention.

The national organization should have close, but not controlling, relationship with the regional centers. One means of achieving that liason might be the appointment of at least one member of the national advisory committee to serve also on a regional advisory committee.

REGIONAL DISTRIBUTION CENTERS

The study clearly indicated an immediate desire, especially on the part of the public schools, for the distribution and exchange of recorded instruction at a regional level. While materials in certain subject matter areas should be distributed, for economical and practical purposes, from a national center, we must realize that for many courses, maximum discribution can be on a regional basis only. Certain courses simply could not find universal acceptance, since there are regional differences in cultures. Materials for instruction originated elsewhere will be more readily accepted if local educators are involved in the preparation of such materials. Personal acquaintance with the television teacher or evidence sufficient to warrant confidence in the teacher will also bring about acceptance. Greater confidence perpetuates greater use. As the area is limited, commonality of regional educational problems offers a more ready basis for the development of pertinent recorded instructional materials. Concern for local control of education will be more easily allayed through this more limited approach, and legal problems may be resolved more easily in the smaller area. The regional concept has already been developed in education; therefore, such instruction by television more readily fits into the planning and machinery now in existence. Consequently attention should be given in locating regional centers with reference to current geographical and educational developments. Furthermore, a close relationship between the educational consumer and the distribution center is essential to the effective use of recorded materials. A regional system may well develop certain efficiencies and economies not possible at the national level. The funds for production may be more readily obtained through local and regional resources. Modification may occur more easily as new developments take place. The problems of recall and removal will not be as great on a regional basis as those on a national level.

The development of regional centers will no doubt vary widely throughout the country. Some may serve fairly substantial areas; others may eventually contract to a service area only statewide in scope. The breadth of acceptance of recorded televised instructional materials is one of the prime factors requiring immediate research. The activating of several pilot regional centers will facilitate the testing of the area of acceptance.

As additional centers are established, existing distribution service areas will possibly be reduced. The ultimate plan may well be a complex system of three types of interrelated distribution centers: a national center, a series of centers serving regional areas, and clusters of small distribution centers fed by the regional systems. To this plan can be added, without serious duplication or lessening of effectiveness, commercial recorded instruction and the materials provided by private educational interests.

The study reveals the need for sustained and self-supporting distribution systems, if such are economically feasible. Evidently initial financial support from some outside source will be required to activate the facilities. However, for continued operation from a sound foundation, each distribution center must be able to pass along to the consumer certain proportionate costs of the complete distribution and exchange process. Preliminary investigation reveals, for example, that rather than bicycling duplicate sets of recorded instruction in a given course from project to project, as might be the case in national distribution, a more economical system would be to place master recordings at the regional center and duplicate programs from tapes continually supplied by the consumer. It is recommended that the complete financial structure of establishing and operating regional centers be subjected immediately to rigorous examination, developed concurrently with the activation and initial operation of pilot regional centers. Procedures should also be tested relative to other problems inherent in such a regional exchange system; such as screening, auditioning, cataloguing, storing, duplicating, scheduling, disseminating information, and producing of the television and supplemental materials.

The number of regional centers cannot now be accurately predicted, as they are dependent upon a number of variables, including use and acceptance. The information provided by this study, however, indicates that multi-state distribution is indeed feasible.

The activation of pilot regional centers will provide an instrument for considerable testing and experimentation and will enable documentation of a substantial body of experience unavailable at present. Such activation will do much to further the concept of distribution and exchange. Key regional centers may possibly spawn further centers of varying sizes. Regional centers may well perform certain duplication, storage, and other services which are not feasible economically in the smaller systems. The pilot centers can serve as resource centers in the planning of new distribution outlets.

This study recommends (1) that several distribution centers of differing types (see Chapter V) should be established concurrently with, if not prior to, the development of a national distribution system, (2) that these should be activated immediately, and (3) that thorough study should be devoted to these pilot undertakings.

Basically, the same stipulations and qualifications which have been drawn for national distribution apply at the regional center; consequently, they will not be restated here. The qualifications are summarized in the following chapter.

While it is recommended that the regional centers be independent and autonomous of the national distribution center, there should be a studied coordination and liason between all such facilities. The national center should in some ways act as parent to the smaller centers, providing certain services and advice. For example, the possibility of regional centers purchasing certain services from the larger system should be investigated.

The study clearly indicates that such regional centers should be located on the campuses of colleges or universities which have already had able experience, not only in educational and instructional television, but also in audio-visual development and distribution at the regional level.

The relationships of regional accrediting associations and state departments of education with these regional centers should be thoroughly explored. Through such interrelationships the distribution facilities can receive a variety of benefits and services, as for example the dissemination of information regarding distribution and exchange.

The study also indicates the need for a definite relationship between regional distribution centers and regional live networks. Neither will eliminate the other; on the contrary, since they are compatible, an active regional exchange system will foster development of live networking. The recorded materials center may well house master instructional tapes for sustained use over network facilities. It may also employ microwave interconnection equipment to distribute certain quality courses developed earlier. Local projects have the choice of taking the feed and broadcasting simultaneously or of recording it for delayed use. In those many instances where such problems as scheduling and individual needs prohibit the economical use of network facilities, unilateral distribution between project and center can be developed.

The same library concept as recommended for the national center can be employed regionally. No doubt, eventually, more than one course in a given subject and level will be available. The educational consumer will not only select the course or a portion thereof, but will use it locally as he sees fit--dependent, of course, upon utilization limitations as prescribed by the producer. Such operational regional distribution centers could play important roles in times of national emergency. Information may have to be imparted not only with the greatest of speed but in a sustained and repeated manner. In such cases it would be necessary to utilize both the commercial stations and the educational network facilities. Regional distribution center services would complement the others, providing saturation and repetition not otherwise possible.

Other problems mentioned in the interviews were (1) legal problems of certification, (2) teachers' contracts and rights (See Appendix I), and (3) regional compacts of school districts. Another need mentioned frequently was for a "film clip" service which would provide local stations and producers with short excerpts of a high quality (See Appendix J). The study has considered a number of these

problems existing on the periphery of the main investigations. It has brought together materials and experiences which will aid in their solution.

CHAPTER V

A STUDY OF THE USE OF IN-SCHOOL TELECAST MATERIALS LEADING TO RECOMMENDATIONS AS TO THEIR DISTRIBUTION AND EXCHANGE

CONCLUSIONS

1. **Considerable instruction is being presented locally at the elementary, secondary, and higher levels of education by means of both broadcast and closed-circuit television.**
2. **A backlog of recorded televised instruction is available for distribution.**
3. **The establishment of systems for the distribution of recorded televised instruction is urgently needed.**
4. **An increasing number of institutions, according to substantial evidence, wish to use recorded televised instruction.**
5. **Further study needs to be made to discover the best methods of utilizing recorded televised instruction in classrooms.**
6. **The dissemination of information concerning recorded televised instruction is needed.**
7. **Production and distribution of materials appropriate for use by television should be continued by both commercial companies and educational institutions.**

RECOMMENDATIONS

On the basis of the data and reports from representatives at all levels of education in the United States, the following recommendations are made concerning (1) policy decisions, (2) curriculum research, (3) personnel training, (4) production, and (5) distribution

of recorded televised instruction.

1. A non-profit national center for recorded televised instruction should be established. The purposes to be served are as follows:
   a. The conducting and encouraging of surveys, analyses, and studies to determine which curriculum objectives can be served best by recorded televised instruction at the national level.
   b. The encouraging and facilitating of the production of high quality recorded televised programs and supplementary materials to meet the curriculum objectives.
   c. The conducting and supporting of organizations and institutions in experimenting with the utilization of recorded televised instruction.
   d. The service as a cataloguer, disseminator, and distributor of recorded televised instructional programs and supplementary materials.
   e. The facilitating of the selection and training of personnel for all types of instruction by television.

In order to accomplish the purpose of education at the elementary, secondary, and college levels, it is essential for the production and distribution center at the national level to fulfill the following provisions:

a. The establishment of a national advisory committee broadly representative of the various academic and professional interests in education. This committee should participate in the development of broad policies for the operation of the center and should encourage the acceptance of the material by both individuals and institutions. The national advisory committee would, in turn, appoint additional committees, or designate logical organizations, to develop individual course content for the production and/or distribution of materials.

b. The establishment, if within an existing national center, of a separate and distinct division dealing with recorded televised instruction.

c. The appointment as administrator of the division of someone who has interests and background in both television and education.

d. The establishment and maintenance of liason and coordination facilities with regional distribution centers, as these develop.

The national center as designated should demonstrate that it possesses the following characteristics and conditions:

a. Experience in the production and circulation of materials at a national level.

b. Equipment and facilities which might be developed further at minimum cost.

c. Status as an institution of quality among educators, as well as among those interested in the medium of television.

d. Staff, either existent or available, experienced in both educational television and distribution of materials.

The reasons for national distribution are as follows:

a. A need exists for complete information and evaluation of all recorded televised instructional programs now available for distribution to the nation.

b. Some subject matter areas possess sufficient content similarity throughout the United States so that national distribution of locally produced materials would be feasible.

c. Many institutions wish to secure materials from such a national center.

d. This national center, with the assistance of such advisory committee as has been described, could provide for nation-wide modifications in content and methodology, brought about by a rapidly-changing society.

e. Available human and physical resources of an institution or a region could be shared by a great number of consumers.

2. Non-profit regional production and distribution centers for recorded televised instruction should be developed. The purposes to be served are as follows:

a. The conducting and encouraging of surveys, analyses, and studies to determine which curriculum objectives can be served best by recorded televised instruction at the regional and local levels.

b. The encouraging and facilitating of the production of high quality recorded televised programs and supplementary materials to meet the curriculum objectives.

c. The conducting and supporting of organizations and institutions in experimenting with the utilization of recorded televised instruction within the region.

d. The service as a cataloguer, disseminator, and distributor of recorded televised instructional programs and supplementary materials.

e. The facilitating of the selection and training of personnel for all types of instruction by television.

In order to accomplish the purpose of education at the elementary, secondary, and college levels, it is essential for the production and distribution centers at the regional level to accept the following provisions:

a. The establishment of a regional advisory committee broadly representative of the various academic and professional interests in education. This committee should participate in the development of broad policies for the operation of the center and should encourage acceptance of the materials by both individuals and institutions. The regional advisory committee would, in turn, appoint additional committees, or designate logical organizations, to develop individual course content for the production and/or distribution of materials.

b. The appointment as administrator of the division someone who has broad interests and background in television and in education.

c. The establishment and maintenance of liason and coordination facilities with the national center as it develops.

The regional centers should be developed in the following manner:

Characteristics and conditions

Two pilot centers should be developed. One would probably be in an area in which state and local control of education rates as a very important factor, and which at the same time has strong intraregional social, economical, political, and cultural relationships. A second pilot center should be established in an area in which regionalism has received considerable thought and has achieved some development. This would be in an area in which the states, although conscious of their individual roles, have already experienced joint action in one or more projects because of the basic similarities among the people and the geographical area. The regional centers might well be located at educational institutions that are experienced in the production and distribution of well-planned and well-produced instructional materials on a state and regional basis.

Furthermore, there should be close cooperation and liason between (1) the regional centers, and (2) each region and the national center. Overlapping membership on advisory committees might be one way of achieving and maintaining these close relationships.

The reasons for the development of regional centers are as follows:

- a. Schools, especially public schools, evidence a greater willingness to accept materials from a regional center.
- b. Initial usage of materials will be increased because of personal relationships with the people involved.
- c. Economies are possible because of (1) transportation and communication, and (2) probable joint use of equipment and facilities between regional and/or national centers.
- d. Resources within a region could be shared by a greater number of consumers.
- e. Similarities in subject content exist in many regions of the nation.
- f. Separate listings of material appropriate for regional use are highly advisable.

PROBLEMS NEEDING FURTHER STUDY

This study has identified and considered other serious problems which need further attention if regional and national production and distribution of recorded televised instruction and supplementary materials are to be facilitated.

1. A variety of legal problems need further study. Foremost among these are the ones concerning compensation to television teachers for the reuse of materials. The use of commercially prepared materials on educational television

programs also needs further study.

2. State and local laws affecting the use and distribution of recorded televised instruction need attention.
3. Further studies need to be made regarding costs in order to determine the economical feasibility of live and/or recorded televised instruction.
4. New industrial developments need to be studied constantly since they change dramatically such factors as cost, flexibility of scheduling, and facility of recording instruction.

CHAPTER VI

LOOK TO THE FUTURE

Of all the suggestions given by the Advisory Panel to the Co-Directors, none was emphasized more than that of the necessity of recognizing new technological developments. Improvements within the television industry, such as recording devices and network facilities, were cited particularly. It is evident that, should television program recorders (considerably less expensive than the current professional models) become available, the need for pre-recorded instructional programming would no doubt increase greatly. Consequently, the Co-Directors made every effort to become acquainted with the newer electronic, photographic, mechanical, and other television developments.

Market analysis clearly indicates to manufacturers that several categories of television recorders are needed. In addition to the present professional model, which is capable of broadcast quality, there is need for an intermediate cheaper model. This latter machine will not have the complete flexibility nor the capabilities of the professional recorder. Ultimately, a third model, probably a low-cost home and classroom television recorder, will be required. This junior equipment will be layman-operated, possibly cartridge-loaded, and probably used more often in the classroom than the 16 millimeter film projector or the audio recorder.

While this latter machine is some years away from the production line, the intermediate model will soon be available. Research and development staffs have been working with prototypes for some time. During the final stages of this study, the Ampex Corporation, Radio Corporation of America, and the Nippon Electric Company of Japan, announced the future marketing of such models.

Ampex Video Products Company recently unveiled a new Videotape recorder for closed-circuit use. The model (UR-8000) is designed to meet the requirements of a high-quality performance, but is not burdened with the added electronic complexity required for broadcast television. Although the model does not compete with the professional recorder, it will see considerable educational, governmental, and other non-broadcast application. The cost of the UR-8000 has tentatively been established at $20,400. (A senior recorder costs $53,000.)

RCA has also recently announced an intermediate model video recorder. Although little information is currently available about this machine, it is known that it will be within the same price range, and may be compatible with the senior RCA recorder. The flexibility of this intermediate model will not compare with the senior recorder. The specifics of this model should be available in the very near future. It is unlikely that playback-only machines in any model will be developed for some time, if at all. Since the playback function is the more complicated and demanding, economy will dictate that both operations be provided in any one recorder.

The advent of the intermediate model television recorder will mean a great deal to educational television. School and campus closed-circuit projects will find the more economical recorder quite acceptable for their needs. It may well be that closed-circuit installations will eventually use two or more such recorders. Certainly, the need for full- and low-power educational broadcast television stations will continue, and the number of such facilities will grow substantially over the next ten years. These stations will most likely, as one of their prime objectives, continue to provide an instructional television service to a wide service area. However, individual school systems with the less expensive television recorders will be able to record this instruction for playback over the local system at such a time or times as meet local schedule requirements. Thus, one of the greatest problems facing the individual employer of television instruction, that of scheduling, will receive substantial relief. Much of this instructional programming may well be distributed through broadcast during the late night and early morning hours when station facilities are not required for other types of programming. Recorders may well be installed in local systems in such a manner as to be activated and operated automatically.

Manufacturers of the professional model broadcast recorders are continually seeking to improve this equipment as well. The trend is again toward lower maintenance, ease and economy of operation, and automatic control, thus reducing mechanical and human error. Tape size will most likely remain the same. Laboratory engineers are concentrating on prolonging the recording head life and producing a better tape. Whereas to date there has been but one supplier of television tape, possibly half a dozen can be expected within the very near future. It is safe to predict that, through improvements of existing equipment and the system of competitive free enterprise, the costs of video recording as known today will markedly be reduced.

There will be need for numerous duplication centers to transfer instructional programming recorded on master tapes by professional models onto tapes compatible with the other machines. Those regional centers recommended in the preceding chapter can appropriately provide this service.

The possibility of using some type of photographic process should not be ruled out. While several models of kinescope recorder preceded the television tape recorder, to date none of those employing the photographic process has consistently produced the quality signal of the tape method. However, there is evidence of a rather substantial amount of continued use of the kinescope recorder, both in situations where no video playback apparatus is available and where the 16 millimeter film projector is more appropriate. There is also evidence of considerable tape-to-film transfer by means of dubbing instructional tape, using the video recorder and the kinescope recorder.

The recording of programming directly on film should also be given further investigation. Inasmuch as such filmed instruction (and kinescope recordings) can be used on motion picture projectors without the necessity of going through a television chain, these materials may have more widespread utilization. It is interesting to note that over one-half of the total programming seen on commercial television today is provided by motion picture film. The Eastman Kodak Company believes that film will continue to play an important role in both commercial and non-commercial television broadcasting. Eastman engineers are investigating the design of a complete film-to-television system which would encompass the entire recording and playback processes using 16 millimeter film. Such an innovation as the almost instant processing of motion picture film would make possible immediate playing of a program as soon as recording is completed, without the necessity of rewind delay.

Although certain developments have taken place in the use of narrower film, at this time, the possibility of using 8 millimeter film on television does not appear to be too promising. As the small frame is enlarged on the television screen, the image is not sufficiently definitive to provide the required quality.

The General Electric Corporation has for several years been working on the development of a thermoplastic tape recording process. While progress has been made in the use of this heat-controlled system, further work is required. This approach may well become reality within the not-too-distant future.

The above serves to indicate that a wide variety of activities are in progress. Recording equipment now being developed will improve quality, provide greater flexibility and service, and operate more automatically and less expensively. The development of inexpensive methods of recording will undoubtedly have great implications for the increased exchange of recorded televised instructional materials.

Similar technological developments are in evidence in the non-recording television equipment areas. It is logical to expect similar improvements at every level. With the advent of more automatic and better network equipment, the interconnection of educational television installations will be additionally motivated. Regional systems are already far past the planning stage. Much instructional television programming may eventually be distributed over microwave loops for immediate local broadcast or subsequent re-play. The currently inactive midnight hours may well be pressed into service for such distributive efforts. However, this system can, at best, provide only a partial solution. Quality recorded instruction will be needed not only for distribution by means of live educational networks, but also for distribution through a more sustained non-electronic system. Distribution centers will play an important role in both cases.

It can be stated that the television equipment manufacturers are keenly aware of the educational market. In the past, products were designed for the known commercial market, with thought given subsequently to possible educational application. Market analyses have indicated to these technologically oriented people that the following information requires their attention: (1) classroom and teacher shortages, (2) an enrollment explosion, (3) the need for vastly improved education at all levels, (4) the necessity for spreading the educational dollar further, (5) an increasing acceptance of the technological tools. The equipment producers are aware of the varied educational uses to which the new media can be placed, and it is encouraging to note that considerable attention is currently being given to the design and application of such equipment to be used primarily for education. Without doubt, as equipment is perfected and utilization increases, the use of recorded televised instruction will be vastly expanded.

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APPENDIX A

APPLICATION TO THE COMMISSIONER OF EDUCATION, U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, FOR FUNDS TO SUPPORT RESEARCH UNDER THE PROVISIONS OF THE NATIONAL DEFENSE EDUCATION ACT, TITLE VII, PART B.

The University of Nebraska

June 3, 1960

Initiated by: W. C. Meierhenry, Co-Director
Jack McBride, Co-Director

1. **Title:** **A SURVEY OF THE USE OF IN-SCHOOL TELECAST MATERIALS LEADING TO RECOMMENDATIONS AS TO THEIR DISTRIBUTION AND EXCHANGE**

2. **Problem:**

There has been a great development of television programs for direct and/or supplementary instruction at elementary, secondary, and college levels. Programs have been developed in various parts of the country without reference to similar developments in other parts of the country. There has been a minimum of exchange of information on these materials and practically no exchange of the programs themselves.

It would appear that there will continue to be a larger number and variety of subject matter areas covered. In order to conserve time, energy, and money, it would seem urgent to study the present status of the field; to determine the likely future developments, and to recommend a plan, either national or regional, for some type of distribution system.

3. **Procedure:**

The problem would be researched in a series of steps or phases. The principal investigators as shown below will take the major responsibility for refining the plan, employing appropriate personnel, approving the procedures for gathering the information, and developing the final conclusions and recommendations. The project would develop somewhat as follows:

Phase I. Identification and appointment of an eight member Advisory Panel representative of all educational interests.

Phase II. Identification and appointment of a ten-member group of Regional Consultants representing groups operationally concerned with educational television at all levels.

Phase III. A small central staff will be assembled in Lincoln to coordinate and conduct the project.

Phase IV. Meeting of the Advisory Panel and Regional Consultants to provide orientation to the joint investigators and to identify and inventory problems, prepare interview and information procedures, and otherwise gather advice on over-all planning.

Phase V. Survey activity to (a) identify and study all projects and potential projects using, or about to use, instructional broadcast materials including films, kinescopes, and videotapes; (b) complete an inventory of materials used; (c) identify the problems of availability of materials.

Phase VI. Prepare (a) summaries of the data acquired in the survey; (b) draft statements as to problems of availability and distribution of materials implied by the data of the survey; (c) draft recommendations as to feasible methods (if need is implied in Phase V. (b)) for exchange and distribution of telecast materials for instructional use.

Phase VII. Meeting of Advisory Panel and Regional Consultants to (a) review and revise the organization of the data as assembled by the joint investigators, (b) review, react to, further develop, and finalize the summary recommendations as assembled in draft form by the joint investigators.

Phase VIII. Duplication of 100 copies of an appropriately illustrated final report setting forth the survey data, final summary of problems of availability and distribution of materials, and recommendations as to feasible methods (if any) for the exchange and distribution of materials.

4. Principal Investigators:

Jack McBride, General Manager, KUON-TV and Director of University Television -- A.B. 1948, Creighton University; M.A. 1949, Northwestern University.

Wesley C. Meierhenry, Professor of History and Principles of Education and of School Administration; Coordinator, Teachers Placement Division; Assistant to the Dean -- B.Sc. 1936, Midland College; A.M. 1941, Ph.D. 1946, The University of Nebraska.

5. Facilities:

The University of Nebraska as a prime contractor has many advantages for this kind of project. It has one of the oldest educational television stations which has continuously had some type of instructional telecast programs. Secondly, The University of Nebraska has been a leader for many years in various kinds of educational innovation and change. The Teachers College, through its new Dean, W, K, Beggs, is in the process of developing a new program of teacher education to include the newer media in education. The University of Nebraska has regional as well as national reputation for highly productive and scholarly endeavor.

6. Duration:

Total amount of time required: Approximately 12 months.

Beginning: June 9, 1960   Ending: August 31, 1961

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APPENDIX B

ORGANIZATIONS AND INSTITUTIONS CONTACTED BY CO-DIRECTORS OF STUDY AS SOURCES OF INFORMATION ABOUT INSTRUCTIONAL TELEVISION

American Association of Colleges for Teacher Education
1201 16th Street, N.W., Washington 6, D. C.

American Association of School Administrators
1201 16th Street, N.W., Washington, D. C.

American Association of University Professors
1785 Massachusetts Ave., N.W., Washington 6, D. C.

American Council on Education
1785 Massachusetts Ave., N.W., Washington 6, D. C.

Ampex Professional Products Company
934 Charter Street, Redwood City, California

Anaheim School System
Anaheim, California

Association for Supervision and Curriculum Development, N. E. A.
1201 16th Street, N.W., Washington, D. C.

Association for Higher Education, N. E. A.
1201 16th Street, N.W., Washington 6, D. C.

Division of Audio-Visual Instructional Service, N. E. A.
1201 16th Street, N.W., Washington 6, D. C.

Eastman Kodak Company
Rochester, New York

Educational Facilities Laboratory, Inc.
477 Madison Avenue, New York 22, New York

Joint Council on Educational Broadcasting
1785 Massachusetts Ave., N.W., Washington 6, D. C.

Learning Resources Institute
680 Fifth Avenue, New York 19, New York

Midwest Program on Airborne Television Instruction
Memorial Center, Purdue University, Lafayette, Indiana

National Association of Educational Broadcasters
630 Fifth Avenue, New York 20, New York

National Education Association
1201 16th Street, N.W., Washington 6, D. C.

National Educational Television and Radio Center
Colosseum Building, 10 Columbus Circle, New York 19, New York

National Science Foundation
Washington 25, D. C.

New Educational Media Branch, United States Office of Education
Washington 25, D. C.

North Central Association of Colleges and Secondary Schools
Ohio State University, Columbus 10, Ohio

Radio Corporation of America
RCA Building, 30 Rockefeller Plaza, New York 20, New York

APPENDIX B

EDUCATIONAL TELEVISION STATIONS
(In Order of Establishment)

STATION	ADDRESS	LICENSEE
KUHT	3801 Cullen Blvd. - Houston, Texas	University of Houston
WQED	4337 Fifth Avenue - Pittsburgh, Pennsylvania	Metropolitan Pittsburgh Ed. TV Station
WHA	University of Wisconsin - Madison, Wisconsin	University of Wisconsin
KQED	525 Fourth Street - San Francisco, California	Bay Area Ed. Television Association
WCET	2222 Chickasaw Street - Cincinnati, Ohio	Greater Cincinnati TV Ed. Foundation
KETC	6996 Millbrook Blvd. - St. Louis, Missouri	St. Louis Ed. Television Commission
KUON	The University of Nebraska - Lincoln, Nebraska	Board of Regents
KCTS	University of Washington - Seattle, Washington	University of Washington
WCIQ	Munford, Alabama	Alabama ETV Commission
WUNC	Univ. of North Carolina - Chapel Hill, No. Carolina	Consolidated Univ. of North Carolina
WBIQ	Protective Life Bldg. - Birmingham, Alabama	Alabama ETV Commission
WGBH	84 Massachusetts Ave. - Cambridge, Massachusetts	WGBH Educational Foundation
WILL	606½ East Green St. - Champaign, Illinois	Board of Trustees of Univ. of Illinois
WYHS	1410 N.E. 2nd Avenue - Miami, Florida	Dade County Board of Public Instruction
WTTW	1761 E. Museum Drive - Chicago, Illinois	Chicago Ed. Television Association
WTVS	18323 James Couzens - Detroit, Michigan	Detroit Ed. Television Foundation
*WOI	Iowa State College - Ames, Iowa	Iowa State College
*KOMU	University of Missouri - Columbia, Missouri	University of Missouri
KRMA	414 Fourteenth Street - Denver, Colorado	School District No. 1
WOSU	2470 North Starr Road - Columbus, Ohio	Ohio State University
KETA	Box 2005 - Norman, Oklahoma	Oklahoma Ed. Television Authority
WKNO	268 Jefferson Avenue - Memphis, Tennessee	Memphis Community Television Foundation
WAIQ	Andalusia, Alabama	Alabama ETV Commission
KLSE	Monroe, Louisiana	Louisiana State Department of Education
WYES	916 Navarre Avenue - New Orleans, Louisiana	New Orleans Ed. Television Foundation, Inc.
KTCA	2070 West Roselawn Avenue - St. Paul, Minnesota	Twin City Area ETV Corporation
WHYY	1622 Chestnut St. - Philadelphia, Pennsylvania	WHYY Incorporated
KOAC	College Campus - Corvallis, Oregon	Oregon State Board of Higher Education
WMVS	1015 N. Sixth Street - Milwaukee, Wisconsin	Milwaukee Bd. of Vocational & Adult Ed.
WIPR	Hostos Avenue - Hato Rey, Puerto Rico	Department of Education of Puerto Rico
KUED	University of Utah - Salt Lake City, Utah	University of Utah
WETV	740 Bismark Road, N.E. - Atlanta, Georgia	Board of Education and City of Atlanta
KNME	Univ. of New Mexico - Albuquerque, New Mexico	Univ. Bd. of Regents & City Bd. of Ed.
WFPK	618 West Jefferson St. - Louisville, Kentucky	Louisville Free Public Library
WJCT	1070 East Adams St. - Jacksonville, Florida	Educational Television, Inc.
WEDU	809 South 20th St. - Tampa, Florida	Florida West Coast ETV, Inc.
WUFT	University of Florida - Gainesville, Florida	Board of Control of University
KOED	Tulsa, Oklahoma	Oklahoma Educational Television Authority
KOKH	1801 N. Ellison - Oklahoma City, Oklahoma	Independent School District No. 89
KVIE	Box 1882 - Sacramento, California	Central Calif. Ed. Television, Inc.
KUAT	University of Arizona - Tucson, Arizona	Board of Regents
WMSB	600 Kalamazoo St. - East Lansing, Michigan	Board of Trustees, Michigan State Univ.
WQEX	4337 Fifth Avenue - Pittsburgh, Pennsylvania	Metropolitan Pittsburgh Ed. TV Station
WNED	Lafayette Hotel - Buffalo, New York	Western New York Ed. Television Assoc.
KDPS	1800 Grand Avenue - Des Moines, Iowa	Des Moines Independent Community Sch. Dist.
WENH	Univ. of New Hampshire - Durham, New Hampshire	University of New Hampshire
WGTV	University of Georgia - Athens, Georgia	Board of Regents
WMUB	Oak at Spring Street - Oxford, Ohio	Trustees and President of Miami University
WGTE	1901 West Central - Toledo, Ohio	Greater Toledo Ed. Television Foundation
KERA	Dallas, Texas	Area Educational Television Foundation
KPEC	5214 Steilacoom Blvd. S.W. - Tacoma, Washington	Clover Park School District
KRET	Richardson, Texas	Richardson Independent School District
WFSU	202 Graduate Bldg. - Tallahassee, Florida	Florida State University

*Non-educational license

APPENDIX B

CLOSED CIRCUIT EDUCATIONAL TELEVISION OPERATIONS

222 closed-circuit operations as listed in the "Educational Teleguide," published by the United States Office of Education in 1959.

EDUCATORS OF PUBLIC AND PRIVATE INSTITUTIONS CONTACTED BY REGIONAL CONSULTANTS

TYPE	NUMBER
College, University Personnel	190
Elementary, Secondary Personnel	158
ETV Station Personnel	65
ETV Council Personnel	30
State Department Personnel	43

PUBLIC SCHOOL SYSTEMS

Information Schedule To Public School Systems

Enrollment size		Percent of total U. S. enrollment in school systems	Number of school systems in this class	SAMPLE	
				Number	Ratio
Group 1:	12,000 or more	33%	281	281	1:1
Group 2:	3,000 - 11,999	30	1,722	343	1:5
Group 3:	150 - 2,999	34	14,204	430	1:33
Group 4:	50 - 149	2	6,208	0	0
Group 5:	Under 50	1	21,749	0	0

APPENDIX C

A STUDY OF THE USE AND DISTRIBUTION OF RECORDED TELEVISED INSTRUCTION

YOUR NAME ....

POSITION ....

INSTITUTION or
ORGANIZATION ....

LOCATION ....

INTRODUCTION:

There has been a great development of television programs for direct and/or supplementary instruction at elementary, secondary, and college levels. Programs have been developed in various parts of the country without reference to similar developments in other parts of the country. There has been a minimum of exchange of information on these materials and practically no exchange of the programs themselves.

It would appear that there will continue to be a large number and variety of subject matter areas covered. In order to make recommendations for a plan or plans for some type of distribution of *recorded televised instruction,* it is necessary to study the present status of the field so that likely future developments may be determined.

The United States Office of Education, under the provisions of the National Defense Education Act, Title VII, Part B., has authorized a grant for *Dr. Wesley C. Meierhenry,* Assistant to the Dean of Teachers College, The University of Nebraska, and *Jack McBride,* Director of Television and Station KUON-TV, *The University of Nebraska,* to direct the research activities for the study.

Your cooperation in completing the following information schedule and returning it to us in the enclosed envelope at the earliest possible time will be greatly appreciated. This information will be treated with professional confidence and used to summarize the total development of recorded instruction for television at this time. You will receive a copy of the final report.

Please *complete* the *items* (1 and 2) *below* and then *proceed* to the *checklist* on the back of this sheet.

1. Recording equipment available:

   ....Kinescope recorder

   ....Videotape recorder

   ....Film

   ....None

2. *Number* of courses programmed live for instructional purposes at:

	Current	1959-60	1958-59	1957-58
Elementary level K-6	....	....	....	....
Secondary level 7-12	....	....	....	....
College level	....	....	....	....

Study Guide to Accompany (Yes or No)	Holder of Title to Materials (Please List)	Name of Institution, Agency or Station Producing Instruction	E—Exchange L—Leased P—Purchased O—Own Production	Cost of Exchanging Leasing Purchasing		Year or Years		Currently Available from Your Station or Other Agency (Yes or No)	Used Over CC—Closed Circ O—Open Circu CS—Commercial Station
				Per Unit	Total Course	Recorded	Used		
No.	Pittsburg Public Schools	Pittsburgh, Pa. Public Schools	L.	$15	$360	57-58	57-58 58-59	No.	CC and O

RECTIONS: Please list the course title or subject and complete items applicable to each. The information supplied should pertain to *recorded television programing* for instructional purposes at the elementary, secondary, or college level.

List all *recorded* courses currently being broadcast as well as those recorded courses broadcast during previous semesters, whether produced locally or produced elsewhere.
(The subject of French is given as an example.)

Course Title or Subject	Grade or Academic Level	T—Total Teaching E—Enrichment S—Supplementary R—Remedial	K—Kinescope F—Film V—Videotape	Number of Lessons in Series	Length of Each Lesson in Minutes
French	9	E	K	24	12

If more space is needed complete on other paper

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APPENDIX D

CATEGORIES FOR INTERVIEWS BY REGIONAL CONSULTANTS

Sub-headings indicate the trend interviewing may follow, but are not intended to dictate the procedure.

* Items for all to discuss

I. MAJOR EDUCATIONAL NEEDS
  * A. What are the educational needs and trends at the present time?
    1. Financing education
    2. Enrollments
    3. Teacher quality and quantity
    4. Curricular patterns
    5. Leadership - local, state, and federal
    6. Others

  * B. What trends are foreseen in meeting the needs as listed in I-A?
    1. What innovations and changes will be necessary to meet these needs?
    2. What are the purposes for including newer instructional media, including television?
      a. Improved teaching
      b. Teacher quality and quantity
      c. Cost of education
      d. Improved Curricula
      e. Others

II. INSTRUCTION BY TELEVISION
  * A. If you have used recorded televised instruction or anticipate use - discuss
    1. Sources
    2. Courses and grade levels
    3. Factors deciding use
    4. Who decided use
    5. Instruction
      a. Total teaching
      b. Major resource
      c. Enrichment or supplementary
      d. Remedial
    6. Evaluation - kind and by whom

  * B. Arrangements made for use of recorded televised instruction
    1. Kinds used - videotapes, kinescopes, or films
    2. Instruction
      a. Total teaching
      b. Major resource
      c. Enrichment or supplementary
      d. Remedial
    3. Costs
    4. Contractual arrangements
    5. Legal difficulties encountered or that may develop
    6. How did you receive information as to availability of recorded instruction?

  * C. Would you be willing to use recorded instruction from other educational institutions?
    1. If not, why?
    2. If so, under what conditions?
      a. Sub-headings under II A and B

  * D. Have you recorded instruction for telecasting? If so, have you made it available for distribution? Under what conditions?
    1. Kinds made available - videotapes, kinescopes, films
    2. Local, state, or national availability
    3. Arrangements
      a. Charges
      b. Compensation
      c. Royalties
      d. Contractual arrangements - teacher, writer, creative staff

4. Difficulties in making recorded televised instruction available to others
    a. Relationships among local, state, and federal units of government
    b. Dissemination of information
    c. Legal technicalities
    d. Costs
    e. Adaptability

III. PRODUCTION

*** A. Auspices for Production**
    1. Criteria for selection of course, content, teacher, institution, etc.
    2. Who controls quality and sets standards? How?
    3. Length of series and programs - who decides? How?
    4. Subsidizing production - Who? How? Where?
    5. Who judges and evaluates? Basis for critique

IV. DISTRIBUTION

*** A. Auspices for Distribution**
    1. Present status and future developments
        a. National center or regional centers -- other
        b. How organized and administered?
        c. How financed?
        d. Role of educational institutions
        e. How to disseminate information
        f. Bicycling tapes versus making copies
        g. Technological developments to aid distribution
        h. Others

V. RECORDED TELEVISED INSTRUCTION AND ITS USE

*** A. Implications for Education**
    1. Improved standards for education
    2. Effect on present and predicted curricula
    3. Effect upon present classroom instruction
    4. Predicted need of recorded televised instruction
    5. For individual instruction
    6. Others

VI. OTHER ITEMS RELEVANT TO STUDY

APPENDIX E

A STUDY OF THE USE AND DISTRIBUTION OF RECORDED TELEVISED INSTRUCTION

YOUR NAME ______________________________

POSITION ______________________________

INSTITUTION or ORGANIZATION ______________________________

LOCATION ______________________________

DESIRE SUMMARIZED RESULTS YES ______ NO ______

INTRODUCTION:

There has been a great development of television programs for direct and/or supplementary instruction at elementary, secondary and college levels. Programs have been developed in various parts of the country without reference to similar developments elsewhere. There has been a minimum of exchange of information on these materials and practically no exchange of the programs themselves.

It would appear that there will continue to be a larger number and variety of subject matter areas covered. In order to make recommendations for a plan or plans for some type of distribution of recorded televised instruction, it is necessary to study the present status of the field and to obtain suggestions from as many of the leading educators in the nation as is possible.

The United States Office of Education, under the provisions of the National Defense Education Act, Title VII, Part B., has authorized a contract for Dr. Wesley C. Meierhenry, Assistant to the Dean of Teachers College, The University of Nebraska, and Jack McBride, Director of Television and Station KUON-TV, The University of Nebraska, to direct the research activities for the study.

Your cooperation in completing the following information schedule, and returning it to us in the enclosed stamped envelope at the earliest possible time will be greatly appreciated. This information will be treated with professional confidence and used to summarize the total development of recorded instruction for television at this time.

DIRECTIONS:

IF YOU ARE USING RECORDED TELEVISED INSTRUCTION, PLEASE COMPLETE THE ITEMS LISTED ON THE FOLLOWING YELLOW SHEET.

IF YOU ARE NOT USING RECORDED TELEVISED INSTRUCTION, PLEASE COMPLETE THE ITEMS LISTED ON THE FOLLOWING BLUE SHEET.

YELLOW SHEET: to be completed if you ARE USING recorded televised instruction.

DIRECTIONS:

Please evaluate the items as they pertain to your institution or organization. Your comments on any items will be appreciated (Check more than one item if applicable.)

I. The recorded televised instruction is being presented by:
__________Kinescope recordings
__________Videotape recordings
__________Film recordings

II. The recorded televised instruction is being used as:
__________Total instruction
__________Supplementary instruction
__________Enrichment instruction
__________Remedial instruction

COMMENTS: __________

III. Indicate the reasons for your using recorded televised instruction.
__________Increased enrollment
__________Improvement of instruction
__________Expanded curriculum
__________Reduce cost of instruction
__________Teacher shortage in some areas

COMMENTS: __________

IV. Have you used recorded televised instruction from sources other than your own?
YES ______ NO ______
If YES, with whom and on what basis has the recorded instruction been exchanged?
Consider items listed below:
Source of materials
Cost to purchase, lease, or exchange __________
Special arrangements __________
If NO, Why? __________

V. What types of instruction should be recorded and exchanged and under what conditions?
____

VI. What factors should determine the basis for recording instruction for television use?
__________Need for repeated use
__________Need to study and evaluate the instruction
__________Need to lower costs of instruction
__________Need to improve the instruction

COMMENTS: __________

VII. How do you believe recorded televised instruction should be exchanged and distributed? (You may wish to identify more than one.)
__________National center
__________Regional center
__________Commercial center
__________Other

COMMENTS: __________

VIII. If you have exchanged or used recorded televised instruction other than your own, how did you receive information about this recorded production and its availability?

COMMENTS: __________

BLUE SHEET: to be completed if you ARE NOT USING recorded televised instruction.

DIRECTIONS:

Please evaluate the items as they pertain to your institution or organization. Comments on any items will be appreciated (check more than one if applicable.)

I. Has your institution or organization used any televised classroom instruction?
YES ________ NO ________
If YES, Why? ________
If NO, Why? ________

II. Indicate the reasons for not using recorded televised instruction.
________ Lack of television facilities
________ Have competent staff
________ Have adequate staff
________ Have adequate curriculum

COMMENTS: ________

III. Do you see any value in recording and exchanging instructional programs for television use?
COMMENTS: ________

IV. Would you be willing to use recorded televised instruction from sources other than your own?
If YES, Why? ________
If NO, Why? ________

V. Under what conditions do you believe recorded televised instruction should be exchanged? Consider items listed.
Source of materials ________
Cost to lease, purchase, or exchange ________
Special arrangements ________

VI. How do you believe recorded televised instruction should be exchanged and distributed? (You may wish to check more than one).
________ National center
________ Regional center
________ Commercial center
________ Other

VII. Have you received any information about existing recorded televised instruction that is available for exchange or for your use? YES ________ NO ________
If YES, from what source? ________

VIII. State your recommendations for disseminating information of recorded televised instruction.
COMMENTS: ________

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APPENDIX F

NATIONAL ASSOCIATION OF EDUCATIONAL BROADCASTERS
RADIO PROGRAM SERVICE

The following historical and procedural summary of the instructional radio program service of the National Association of Educational Broadcasters was prepared by Robert E. Underwood, Jr., Network Manager, at the request of the Co-Directors of this study.

The first package of in-school radio programs made available to NAEB Radio Network members appeared in time for the 1952-53 school year. Since that time the network has made an annual offering of in-school programs, each offering containing approximately twelve (12) series. Including the package for the 1961-62 school year, the network has made available a total of 2,253 in-school programs to member stations. Approximately forty (40) network stations order in-school programs each year.

All of the in-school programs distributed by the network are produced by network members. The series are produced for local use, and if the local producer feels the series to be of sufficient quality he submits it for possible national distribution. To this time only four (4) series have been produced under a grant-in-aid system whereby production is contracted for and financial support made available. In all other cases no financial reward has been available to the producing station.

Selection of the series to be distributed by the network is made by a committee of network members appointed by the NAEB President. A standard submission form has been devised, and producers must complete it and submit audition tapes before any action will be taken by the committee. For each submission each committee member receives a copy of the completed submission form, a copy of the accompanying teacher manual and copies of the audition tapes. It is the duty of each committee member to review the submission utilizing all of the review resources at his command: local content authorities, staff members, etc. Reviews of the series are then put in writing.

Final selection of each offering is made at a committee meeting usually held in connection with the annual Institute for Education by Radio-Television. At this meeting committee members compare opinions on the submissions, discuss the various merits and short-comings of the series, and make a final selection. After selection is made it becomes the task of the network manager to arrange for distribution.

Stations whose series are selected for distribution are requested to supply the network with a complete set of tapes for the series and approximately sixty-five (65) copies of the accompanying teacher manual. Again, no financial reward is made to the station for these materials; all expenses in the preparation of the tapes and manuals are borne by the producing station.

Since the vast majority of network stations using in-school programs are off the air during the summer months, network in-school series are offered and distributed one (1) year in advance of their intended broadcast dates. This method serves a two-fold purpose: it enables the network station to receive and audition all series to be broadcast and to prepare sufficient manuals for local use before the annual summer vacation period; and it enables the network to duplicate and distribute the series while at the same time meeting its production schedule for the adult offerings.

To illustrate the method of distribution, let us follow the process whereby the programs for the 1962-63 school year will be distributed. Keep in mind that the stations now have all of the programs designed for broadcast during the 1961-62 year.

After final selection of the offering is made in April, producers of the series accepted have until June 30 to supply the network with the required tapes and manuals. By means of a form order circulated among the entire network membership in May the network knows how many and which stations wish to receive information on the next in-school offering. Then, in September when school opens again, all network members so requesting in May receive the following materials from the network:

1. An official announcement of the offering listing the series available, the producer of each, the number of programs in each series, the content area of each series, and the suggested grade level for each series.
2. Tapes containing programs one (1) and two (2) of each series.
3. A teacher manual for each series offered.

With the above materials on hand, each station has until approximately November 15 to review the series offered and place its order with the network. Distribution of series ordered begins the first week of December; two (2) programs of each series are mailed weekly until distribution is completed, usually around the first of March. Thus, by the first of March each station has its in-school programs on hand for the following school year.

In addition, the network retains master copies of all in-school programs distributed in order that new stations may obtain past series.

To encourage network service for stations owned by school systems, boards of education, etc., the network has a special fee rate for such stations. Under this system of billing, a station qualifying may receive all of the annual in-school series, one hour per week from the adult offerings and all of the "specials" made available throughout each year for one-half the normal fee. This method of billing has made it possible for the small school station with very limited finances to receive the benefit of network service.

APPENDIX G

NATIONAL EDUCATIONAL TELEVISION AND RADIO CENTER

INSTRUCTIONAL TELEVISION EXCHANGE

The following historical and procedural summary of the instructional television exchange service of the National Educational Television and Radio Center was prepared by James Robertson, Director of Station Relations, at the request of the Co-Directors of this study.

A summation of the various activities undertaken by NETRC over a five-year period with a view toward service requested by affiliated stations in the area of instructional TV exchange.

December 14-15, 1956	Research Project Conference (Ann Arbor) recommended, among other directions, further research into classroom TV instruction, based on Michigan State study at that time.
May 1, 1957	Published results of NETRC Superintendents' Inquiry Into Instructional Television, a questionnaire sent by Dr. Ryland Crary to school superintendents in all cities over 100,000.
January 17-19, 1958	Work Conference on Instructional Television (St. Louis) called by Dr. Kenneth Oberholtzer, Superintendent of Schools in Denver, and Dr. Harry Newburn, NETRC president, involving top superintendents to evaluate Center's future steps.
January-April 1958	Systematic interviews of affiliated station personnel and selected school TV directors regarding feasibility of exchange of existing materials, conducted by Director of Station Relations, James Robertson.
May 7, 1959	Informal meeting called by Center with affiliates attending Institute for Education by Radio and Television at Columbus with NETRC president, John F. White presiding. Extensive discussion pro and con regarding instructional television exchange.
June 25-26, 1959	Report to St. Louis Affiliates Meeting of results of NETRC survey of affiliates regarding instructional materials available on kine for exchange.
May 1960	Report to Chicago Affiliates Meeting of results of NETRC survey one year later regarding instructional materials available on kine or tape for exchange.
November 1960	Plan for duplication and distribution of Midwest Airborne tapes of instructional materials to NETRC affiliates, sent to Dr. John Ivey jointly by LRI and NETRC. Envisioned by action of LRI board July 1960.

As for materials available, NETRC has always held that many of its programs in the regular service were useful for schools, and this has been demonstrated repeatedly by affiliates who schedule many NET features along with direct instruction produced locally. Dr. Ryland Crary did an "Instructional Utility Analysis" published as early as July 1958 listing 319 separate programs which school people at that time deemed useful; far more have been produced and utilized since, some of them as entire series such as the 39 half hours of DISCOVERY, eight programs of MUSIC FOR YOUNG PEOPLE, etc.

Deliberately acquired for instructional purposes (yet useful for a general audience) were such series as:

DRIVER EDUCATION

PARLONS FRANCAIS

The latter project in particular has earned lavish praise from all quarters in the educational world.

APPENDIX H

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
ELEMENTARY (K-6)						
ART						
Art	5-6	S	K	16	15	No
Let's Paint	3-4-5	E	K	4	20	No
Art	K	S	K	3	25	Yes
Art	1	S	K	3	25	Yes
Art	3	S	K	3	25	Yes
Art	4	S	K	4	25	Yes
Art	5	S	K	5	25	Yes
Art	6	S	K	2	25	Yes
Line and Design	4-6	S	K	8	15	Yes
Creative Art	K-3	S	K	9	30	Yes
Creative Art	4-6	S	K	9	30	Yes
LANGUAGE ARTS						
Handwriting, Your Silent Messenger	6	S	K	13	15	Yes
Creative Writing	4	E	K	7	15	Yes
Alice in Poetryland	4-6	S	K	8	15	Yes
How Do You Do	4-6	S	K	7	30	Yes
Happy Times Together	1-3	S	K	8	15	Yes
Kom Lach and Lerne	4	S	V	96	15	Yes
Language Arts	4	S	K	3	25	Yes
Exploring School Library	4-5-6	S	K	6	15	No
Listen and Say A Consonants	1-2-3	E	K	12	15	No
Listen and Say B Vowels	1-2-3	E	K	12	15	No
Poetry Time	5-6	E	K	7	15	No
Let's Talk	K-2	E	V	28	15	Yes
Let's Tell A Story	K-3	E	V	14	20	Yes
Story Friends	K-3	E	V	14	15	Yes
Our Living Language	4-6	E	V	14	20	Yes
Literature	3	S	V	29	15	Yes
Here and There	K-1	E	K	32	15	Yes
Listen and Say	1-2	S	K	24	15	Yes
Stories	1-2-3	E	V	8	15	Yes
Beginning Spelling	2	T	K	135	20	Yes
Adventures in Learning	2-3	T-E	K	14	15	Yes
Learn to Spell	3-4-5-6	S	K	14	20	Yes
The Story Teller	5-6	E	K	32	15	Yes
Word Adventure	5-6	S	K	7	20	Yes
When You Write	5-6	S	K	7	20	Yes
Language of Mr. Lingo	4	E	V	12	15	Yes
We Learn to Spell	4-5-6	E	K	8	15	No
TV Kindergarten	K	T	V	189	29.5	No
LANGUAGES, FOREIGN						
French	5	T	K	105	14	Yes
French	6	T	K	70	14	Yes
French I	4-5	T	K	100	15	Yes
French II	5-6	T	V	100	15	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	10	80	--	KCTS-Seattle & King Co. Sch.	KCTS	Yes
O	10	40	--	KCTS-Seattle & King Co. Sch.	KCTS	Yes
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	56	NETRC	WQED	Yes
O	--	--	57-58	Orleans Parish Schools	WYES	No
O	--	--	57-58	Orleans Parish Schools	WYES	No
O	--	--	58-59	Orleans Parish Schools	WYES	No
O	--	--	58-59	Orleans Parish Schools	WYES	No
O	7.50	--	57	Pittsburgh Parochial Schools	WQED	No
O	15	105	55	Pittsburgh Parochial Schools	WQED	No
O	7.50	60	56	Pittsburgh Parochial Schools	WQED	No
O	--	--	60-61	Robbindale Pub. Sch. Minnesota	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	7.50	45	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	90	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	90	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	52.50	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	65	1820	60-61	KVIE	KVIE	Yes
O	75	1050	60-61	KVIE	KVIE-KQED	Yes
O-E	65	910	60-61	KVIE	KVIE-KQED	Yes
O-E	75	1050	60-61	KVIE	KVIE-KQED	Yes
O	--	--	58-59	21-inch Classroom	WGBH	--
O	7.50	240	58	KETC	KETC	Yes
L	--	--	--	KCTS	KETC	Yes
O	--	--	60	KETC	KETC	Yes
O	10	1350	60-61	KETC	KETC	Yes
O	7.50	105	58	KETC	KETC	Yes
O	10	140	56	KETC	KETC	Yes
O-L	7.50	240	57	KETC	KETC-KQED	Yes
O	10	70	58	KETC	KETC	Yes
O	10	70	58	KETC	KETC	Yes
O	10	120	60-61	Orleans Parish Schools	WYES	Yes
O	12.50	75	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	--	--	59-60	KNME	KNME	No
O	18	1890	58-59	Denver Public Schools	KRMA	Yes
O	18	1260	58-59	Denver Public Schools	KRMA	Yes
O	7.50	750	60-61	Granite Sch. & Univ. of Utah	KUED	Yes
O	7.50	750	60-61	Granite Sch. & Univ. of Utah	KUED	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
ELEMENTARY (K-6)						
LANGUAGES, FOREIGN						
French I	4	T	V	60	15	Yes
French I	5	T	V	60	15	Yes
French	3	S	V	128	20	Yes
Allons-y	1-3	S	K	15	30	Yes
Parlon Francais	3-5	T-S	V	60	15	Yes
Rosita Y Panchito	3	E	K	30	10	Yes
Panchito Y Los Animales	4	E	K	45	10	Yes
Spanish	5	T	V	105	14	Yes
Spanish	6	T	V	70	14	Yes
Spanish-Saludos Amigos	4-6	T	K	34	15	Yes
Spanish-Hola Ninos	5-7	T-S	V	53	15	Yes
Spanish-Viva-el-Espanol	6-9	T-S	V	54	15	Yes
Spanish (Elementary English)	6-12	E	K	80	30	Yes
Spanish	5-6	T	V	30	15	Yes
Spanish	5-6	T	V	72	30	Yes
Hablemos Espanol	4-8	E	V	14	15	Yes
Russian I	4	T	K	90	30	Yes
Russian II	5	T	K	90	30	Yes
Panchito Y Los Animales (Holidays)	4	E	K	11	10	No
Los Pequinos Visitantes	5	E	K	24	15	No
Spanish	4	T	V	130	15	Yes
Spanish (Espanol 1)	4-6	T-S	K	48	15	Yes
Ya Hablamos Espanol	4	S	V	96	15	Yes
Amigos	4-6	S	K	8	30	Yes
MATHEMATICS						
Let's Figure Mathematics	4	S	V	27	20	Yes
Compass Rose	1-2	E	K	8	15	No
Number of Things	1-2	E	K	12	15	No
Fractions	5	E	K	8	20	No
Lines and Shapes	3-4	E	K	14	15	Yes
Figure It Out	5-6	E	K	10	20	Yes
Arithmetic	2	S	K	3	25	Yes
Arithmetic	3	S	K	4	25	Yes
Journey Through Numberland	1-3	S	K	8	30	Yes
What's the Answer	4-6	S	K	8	30	Yes
Patterns in Arithmetic	4	T	K	69	14-30	Yes
MUSIC						
Musical Forms	4-12	E	K	6	30	Yes
Instruments of the Orchestra	5-6	S-E	K	13	14-30	Yes
Demand Performance	1-6	S	F	35	15	No
1-2-3-4 March	4-6	S	K	8	15	Yes
We Sing and Listen	1-3	S	K	8	15	Yes
Music Makers	1-3	S	K	8	15	Yes
Pandy in Music Land	4-6	S	K	8	15	Yes
Music	1	S	K	7	25	Yes
Music	2	S	K	7	25	Yes
Music	3	S	K	9	25	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
L	--	--	60-61	NETRC	WGBH	Yes
L	--	--	60-61	NETRC	WGBH	Yes
P	--	--	60-61	Learning Resources Institute	--	--
O	15	225	55	Allegheny Pub. Sch. Penn.	WQED	No
L	10	600	60-61	NETRC	--	Yes
O-L	5	150	--	KCTS	KCTS-WKNO	Yes
O-L	5	225	--	KCTS	KCTS-WKNO	Yes
O	--	--	60-61	Nat'l Defense Education Act	KTMA	No
O	18	1260	58-59	Nat'l Defense Education Act	KRMA	Yes
O	--	250	60-61	KQED	KQED	Yes
O	10	--	60-61	KQED	KQED	Yes
O	10	--	60-61	KQED	KQED	Yes
O	--	--	59-60	Dep't of Education-Puerto Rico	WIPR	Yes
O	--	--	60	Milwaukee Catholic Archdiocese	WMVS	No
O	--	--	60	Georgia State Department	WGTV	No
O	65	910	60-61	KVIE	KVIE	Yes
O	15	1350	60-61	Univ. Utah-Salt Lake City Sch.	KUED	Yes
O	15	1350	60-61	United States Office of Ed.	KUED	Yes
O	5	55	60	KCTS-Seattle & King Co. Sch.	KCTS	Yes
O	7.50	180	60	KCTS-Seattle & King Co. Sch.	KCTS	Yes
O	--	--	59-60	Lansing Public Schools	WMSB	Yes
E	--	--	--	Denver Public Schools	WQED	Yes
O	--	--	60-61	Minnesota Council	KTCA	No
O	15	120	56	Westmoreland Pub. Sch. Penn.	WQED	No
O	--	--	60-61	KQED	KQED	Yes
O-L	--	--	--	NETRC	KCTS	Yes
L	--	--	--	NETRC	KQED	Yes
O	10	80	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	105	58	KETC	KETC	Yes
O-L	10	110	57-58	WHA	WQED-KETC	Yes
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	15	120	56	Allegheny Public Schools	WQED	No
O	--	--	55	Allegheny Public Schools	WQED	No
O	--	--	60-61	Wisconsin Improvement Program	WHA	Yes
L	5	30	--	NETRC	WYES	Yes
O	15	175	59-60	Wisconsin School of the Air	WHA	Yes
L	--	--	--	NETRC	WQED	Yes
O	--	--	--	--	WQED	Yes
O	7.50	60	--	Pittsburgh Parochial Schools	WQED	No
O	7.50	60	56	Pittsburgh Parochial Schools	WQED	No
O	7.50	60	58	Pittsburgh Parochial Schools	WQED	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
ELEMENTARY (K-6)						
MUSIC						
Music	4	S	K	2	25	Yes
Music	5	S	K	1	25	Yes
Music	6	S	K	4	25	Yes
Music is Magic	1-3	S	K	8	30	Yes
Enjoying Music	5-6-7	E	K	10	30	Yes
Music	2	S	V	30	15	Yes
Music	5-6	S	K	6	25	No
Music for Young People	4-5-6	E	K	10	30	No
Melody and Rythm	3-4	E	K	8	15	No
Music (Orchestra)	4	S	K	8	20	No
Music	5-6-7	E	K	8	15	No
Music	4-6	E	V	2	30	Yes
Music	4-6	E	V	13	20	Yes
Music	1-2-3	S	V	72	30	Yes
Music	4-5-6	S-E	K	30	30	Yes
Music	4-5-6	S-E	V	26	30	Yes
Music for Lads and Lasses	4-6	S	V	14	20	Yes
Primary Music (Music Theater)	1-2-3	E	V	62	15	Yes
SCIENCE						
Science	3	E	V	30	15	Yes
Science Near and Far	3	S-E	V	27	20	Yes
Science in Our World	5	S-E	V	27	30	Yes
Discussing Science	5-8	S-E	K	27	15	Yes
Science	6	S	V	68	19.5	Yes
Let's Explore Science	5-7	S	K	30	28.5	Yes
Science	4-5	S	V	72	30	Yes
Science-Let's Find Out	2-3	E	V	14	15	Yes
Weather	4-5-6	E	K	3	24	No
Science	5	E	K	18	15	No
Seasons	1	E	K	6	20	No
Sound	5-6	E	K	16	15	No
World Weather and You	4-5-6	E	K	8	30	No
Biology	4-5-6	E	K	12	15	No
Birds and Insects	4-5-6	E	K	5	20	No
Discovery	5-6	S	K	16	30	No
Sea Harvest	5-6	S	K	7	25	No
Seashore Animals	5-6	S	K	8	15	No
Try This	2-3	E	K	6	15	No
Simple Machines	5	E	K	10	15	No
Simple Machines	5	E	K	9	15	No
Science	K-1-2	S	V	8	20	Yes
Exploring Nature	5	S	V	30	30	Yes
Science	6	S	V	15	30	Yes
Science	5-6	S	V	128	20	Yes
Why and How	3	S	V-F	8	15	Yes
Science Shelf	4-5	S	K	14	20	Yes
Science	5	E	F	14	15	Yes
Science	6	E	F	20	15	Yes
Nature and Science	1-3	S	F	17	15	Yes
Under the Sun	1-3	S	K	8	15	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	15	120	55	Allegheny Public Schools	WQED	Yes
L	--	--	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	--	--	60-61	21-inch Classroom	WGBH	--
O	12.50	75	--	KCTS-Seattle & King Co. Sch.	KCTS	--
L	--	--	--	NETRC	KCTS	Yes
O	7.50	60	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	10	80	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	60	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	10	220	60-61	KVIE	KVIE	Yes
O	75	975	60-61	KVIE	KVIE	Yes
O	--	--	60-61	Georgia State Department	WGTV	No
O	--	--	58-59	University of Alabama	WBIQ-WTIQ	No
O	--	--	60-61	University of Alabama	WBIQ-WTIQ	No
E	--	--	60-61	KVIE	KVIE-KQED	Yes
O	--	--	60-61	WENH	WENH	Yes
O	--	--	60-61	WENH	WENH	Yes
O	--	--	60-61	WQED	WQED	Yes
O-L	5	135	60-61	WQED	WQED	Yes
O-L	5	135	60-61	NETRC	WQED	Yes
O	--	--	59-60	Albuquerque Public Schools	KNME	No
O	--	--	60-61	Iowa Committee on TV	WOI	Yes
O	--	--	60-61	Georgia State Department	WGTV	No
O	65	910	60-61	KVIE	KVIE	Yes
O	12	36	--	KCTS-Seattle Public Schools	KCTS	--
O	7.50	135	--	KCTS-Seattle Public Schools	KCTS	--
O	10	60	--	KCTS-Seattle Public Schools	KCTS	--
O	7.50	120	--	KCTS-Seattle Public Schools	KCTS	--
O	15	120	--	KCTS-Seattle Public Schools	KCTS	--
O	7.50	90	--	KCTS-Seattle Public Schools	KCTS	--
O	10	50	--	KCTS-Seattle Public Schools	KCTS	--
L	--	--	--	NETRC	KCTS	--
O	12.50	87.50	--	KCTS-Seattle Public Schools	KCTS	--
O	7.50	60	--	KCTS-Seattle Public Schools	KCTS	--
O	7.50	45	--	KCTS-Seattle Public Schools	KCTS	--
O	7.50	75	--	KCTS-Seattle Public Schools	KCTS	--
O	7.50	67.50	--	KCTS-Seattle Public Schools	KCTS	--
E	--	--	60-61	Oklahoma City Public Schools	WGBH	Yes
O	--	--	60-61	21-inch Classroom	WGBH	Yes
O	--	--	60-61	21-inch Classroom	WGBH	Yes
L	--	--	60-61	Learning Resources Institute	KETC	--
O	--	--	60-61	KETC	KETC	Yes
O	10	140	57	KETC	KETC	Yes
P	--	--	--	McGraw Hill	WYES	Yes
P	--	--	--	McGraw Hill	WYES	Yes
L	--	--	--	Encyclopaedia Britannica Films	WQED	Yes
O	7.50	60	56	Allegheny Public Schools	WQED	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
ELEMENTARY (K-6)						
SCIENCE						
Exploring with Science	4-6	S	F	30	15	Yes
Science	5	T-S	--	10	25	Yes
Science	6	T-S	--	10	25	Yes
Nature Workshop	4-6	S	K	8	15	Yes
Science	5	T	V	50	30	Yes
Science	6	T	V	60	30	Yes
Science - Far and Near	1-3	S	K	36	15	Yes
Science	1	S	K	8	25	Yes
Science	2	S	K	10	25	Yes
Science	3	S	K	9	25	Yes
Science	4	S	K	11	25	Yes
Science	5	S	K	10	25	Yes
Science	6	S	K	4	25	Yes
Elementary Science	4-6	S	F	19	15	Yes
Interesting Adventures in Science	2	E	K	8	15	Yes
Space, Rockets and Missiles	6	E	K	9	15	Yes
Health	1	S	K	7	25	Yes
Health	2	S	K	6	25	Yes
Health	3	S	K	6	25	Yes
Health	5	S	K	5	25	Yes
Health	6	S	K	4	25	Yes
SOCIAL STUDIES						
Social Studies	4	S	K	11	25	Yes
Social Studies	3	S	K	3	25	Yes
Today's World	4-6	T-S	K	8	15	Yes
Far and Near	1-3	S	F	36	15	Yes
Storyland	1-3	S	F	9	15	Yes
Transportation	1-3	S	F	8	15	Yes
Look Who's Here	1-3	S	K	7	30	Yes
The Happy Way	1-3	S	K	8	15	Yes
Talking Town	1-3	S	K	32	15	Yes
New Orleans is My City	3	E	K	8	15	Yes
City Around Us	4-5	S	K	10	20	Yes
Look at Missouri	4-5	S	K	7	20	Yes
Room Nine	2-3	E	K	28	15	Yes
Around the World in 48	--	E	V	6	29	No
Around the World in Story	1-3	E	V	15	20	Yes
American Neighbors	5-6	S	V	10	30	Yes
History - Oregon	4-5	S	K	13	15	Yes
State History - Iowa	5-8	S	K	90	28.5	Yes
California Close Up	4	E	V	4	30	Yes
California Story	4-6	E	V	14	20	Yes
Treasure Trips	3	S	K	15	25	No
Ships and Boats in Our Harbor	2	E	K	6	15	No
Seattle Waterways	4	E	K	6	15	No
Safety Town	1-2-3	E	K	8	--	Yes
Our Neighbors (The Japanese)	3	E	K	6	25	No
Our Friendly Forest	1-2-3	S	K	6	15	No

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	--	--	61	Commonwealth of Pennsylvania	WQED	--
O	--	--	60	WQED	WQED	Yes
O	--	--	60	WQED	WQED	Yes
O	--	--	57	--	WQED	Yes
O	--	--	59-60	WKNO	WKNO	Yes
O	--	--	60-61	WKNO	WKNO	Yes
O	--	--	60	Pittsburgh Public Schools	WQED	Yes
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	59-60	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	59	Commonwealth of Pennsylvania	WQED	No
O	--	--	58-59	Orleans Parish Schools	WYES	No
O	--	--	59-60	Orleans Parish Schools	WYES	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	60	Pittsburgh Public Schools	WQED	Yes
O	--	--	60	--	--	--
L	--	--	--	EBF	WQED	Yes
L	--	--	--	EBF	WQED	Yes
O	15	105	55	Allegheny Public Schools	WQED	Yes
O	7.50	60	58	Pittsburgh Public Schools	WQED	Yes
O	7.50	240	56	Pittsburgh Public Schools	WQED	Yes
O	10	80	59-60	Orleans Parish Schools	WYES	Yes
O	10	100	58	KETC	KETC	Yes
O	10	70	56	KETC	KETC	Yes
O	7.50	210	57	KETC	KETC	Yes
O	--	--	60-61	WCET	WCET	Yes
O-E	75	1125	59-60	KVIE	KVIE	Yes
O	--	--	60-61	General Ext. Div.-Oregon	KOAC	Yes
O	--	--	60	KOAC	KOAC	Yes
O	--	--	60	Iowa State Teachers College	WOI	Yes
O	110	1100	60-61	KVIE	KVIE	Yes
O	75	1050	59-60	KVIE	KVIE	Yes
O	12.50	187.50	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	45	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	45	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	--	--	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	12.50	75	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	7.50	45	--	KCTS-Seattle & King Co. Sch.	KCTS	--

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
ELEMENTARY (K-6)						
SOCIAL STUDIES						
Northeast Indians	4	E	K	4	25	No
Tales of Poindexter	1-2-3	E	K	8	15	No
Great Trains Trilogy	5	E	K	16	30	No
State History, Washington	4-9	S	K	6	25	No
Mobiles	5-6	S	K	4	20	No
Make Your Own Map	6-7	S	K	8	25	No
Along The Forest Trail	4-5-6	E	K	8	20	No
State History - New Hampshire	4	E	V	31	20	Yes
Daytime Special	4-6	S	K	8	30	Yes
The High Road	4-6	S	K	8	15	Yes
Pioneer Wisconsin	4-6	S-E	K	20	20	Yes
My State is Louisiana	3	E	K	4	15	Yes
Back to Choctow Days	3	E	K	9	15	Yes
This is Our Country	5	E	K	9	30	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	12.50	50	--	KCTS-Seattle & King Co. Sch.	KCTS	--
L	--	--	--	NETRC	KCTS	Yes
L	--	--	--	NETRC	KCTS	Yes
O	12.50	75	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	10	40	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	12.50	100	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	10.00	80	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	--	--	60-61	WENH	WENH	Yes
O	--	--	56	--	WQED	No
O	--	--	56	--	WQED	No
O	--	--	58-59	Wisconsin School of the Air	WHA	No
O	10	40	59-60	Orleans Parish Schools	WYES	Yes
O	--	--	60-61	Orleans Parish Schools	WYES	No
O	--	--	57-58	Orleans Parish Schools	WYES	No

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
SECONDARY (7-12)						
ART						
Artists at Work	10-12	E	K	11	30	No
Past Speaks to Us in Art	6-12	E	K	8	30	Yes
The Arts Around Us	7-12	E	K	--	30	Yes
Adventure with Sculpture	7-12	S	K	8	30	Yes
Design Workshop	10-12	S	F	13	30	Yes
LANGUAGE ARTS						
Parts of Speech	7-8-9	E	K	8	25	No
Reading	7	T	V	45	20	Yes
Reading	7	T-S	V	15	25	Yes
Reading	8	T-S	V	15	25	Yes
Alice in Folkland	7-9	S	K	8	15	Yes
Hero Tales	7-9	S	K	7	15	Yes
Touch a Star	7-9	S	K	8	30	Yes
It's Fun to Babysit	7-9	S	K	8	15	Yes
Heritage I Robert Frost	11	E	K	15	30	Yes
French	7-8-9	E	V	90	15	Yes
French	6-7-8	T	K	60	30	Yes
Spanish	6-7-8	T	K	24	30	Yes
Tertulias Espanolas	8	E	K	8	30	Yes
Spanish	7-12	E	K	80	30	Yes
French Through TV	--	T-S	K	62	30	Yes
Spanish Through TV	--	T-S	K	48	30	Yes
American Literature	11	E	K	10	30	Yes
The Written Word	10-12	S	F	15	30	Yes
MATHEMATICS						
Calculus	12	T	K	126	30	No
Introductory Mathematics	11-12	S	V	30	28½	Yes
Understanding Numbers	10-12	S	F	7	30	Yes
Fun with Formulas	7-8-9	E	K	4	20	No
Mathematics	7-8	S	V	72	30	Yes
Patterns in Arithmetic	9	T	K	76	25	Yes
MUSIC						
Accent on Music	7-8-9	E	V	8	30	Yes
Musical Forms	4-12	E	K	8	60	Yes
Demand Performances	4-9	S	F	35	15	Yes
Music for Young People	4-9	S	F	13	30	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	15	165	--	KCTS-Seattle & King Co. Sch.	KCTS	No
O	10	80	60	Orleans Parish School Board	WYES	Yes
L	5	--	--	NETRC	--	Yes
O	--	--	55	Pittsburgh Public Schools	WQED	Yes
L	--	--	--	--	KQED	--
O	12.50	100	--	KCTS-Seattle & King Co. Sch.	KCTS	Yes
O	--	--	61	Hamilton Co. Pub. Sch.-Ohio	WCET	Yes
O	--	--	60	WQED	WQED	Yes
O	--	--	60	WQED	WQED	Yes
O	--	--	57	Pittsburgh Parochial Schools	WQED	--
O	--	--	56	Pittsburgh Parochial Schools	WQED	--
O	--	--	55	Pittsburgh Parochial Schools	WQED	--
O	--	--	57	Pittsburgh Parochial Schools	WQED	Yes
L	--	--	--	NETRC	--	Yes
O	--	--	61	Granite Sch. Dist. - Utah	KUED	Yes
L	--	--	--	NETRC	--	Yes
L	--	--	--	Language Research, Inc.	--	Yes
O	--	--	57-58	Orleans Parish School Board	WYES	No
O	--	--	60	Dept. of Education-Puerto Rico	WIPR	Yes
L	--	--	60	NETRC	--	Yes
L	--	--	61	Language Research, Inc.	--	Yes
L	5	--	--	NETRC	--	Yes
L	--	--	--	NETRC	--	Yes
O	15	1890	--	KCTS-Seattle & King Co. Sch.	KCTS	Yes
O	--	--	60	Iowa State University	--	--
O	--	--	--	NETRC	--	Yes
O	10	40	--	KCTS-Seattle & King Co. Sch.	KCTS	--
O	--	--	61	Georgia State Dept. of Ed.	WGTV	No
O	--	--	60-61	Wisconsin Improvement Program	WHA	Yes
O	--	--	61	21-inch Classroom	WGBH	Yes
L	5	--	60-61	NETRC	--	Yes
L	--	--	--	NETRC	--	Yes
L	--	--	--	NETRC	--	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number or Lessons in Series	Number of Minutes per Lesson	Study Guide
SECONDARY (7-12)						
SCIENCE						
Biology	10	S	V	72	30	Yes
Chemistry	--	T-S	F	160	30	Yes
Physics	--	T-S	F	160	30	Yes
Modern Physics	11	S	V	35	40	No
Chemistry	11	S	K	20	30	No
Chemistry	11	T-S	V	90	30	Yes
Physics	12	S	K	30	30	Yes
Biology	10	S	F	120	30	Yes
Astronomy for You	10-12	S	F	11	30	Yes
Molecules are Real	10-12	S	K	8	15	Yes
Science	7	T	V	60	30	Yes
Probing the Headlines	7-12	E	V	14	20	Yes
Science on the Go	7-8	E	V	14	20	Yes
General Science	9	S	V	36	29½	Yes
Biology	9	T	V	87	29	Yes
Our Universe	9	T	K	33	25	No
Space Science	7-9	S-E	V	14	30	Yes
Health Science	8	S	K	68	25	Yes
Animals of the Seashore	7-8-9	E	K	8	30	--
Discovery	7-8-9	E	K	7	30	--
Science at Work	7-8-9	E	K	8	20	Yes
Junior Science	8-9	E	F	39	15	Yes
Physical Science	7-9	S	V	30	25	Yes
Survival of the Sea	7-12	S	F	12	30	Yes
Conquest of Science	7-12	S	K	8	15	Yes
Life Sciences	7-9	T-S	V	15	25	Yes
Science	7	S	K	24	25	Yes
SOCIAL STUDIES						
City Government	10-12	E	K	6	15	No
Contemporary Problems	10-12	E	K	16	30	No
United Nations Review	10-12	E	K	8	15	No
The American Dream	10-12	E	V	14	20	Yes
First Tuesday	9-12	T	F	8	29	Yes
America in the Making	--	E	K	8	30	Yes
Our Nation's Roots	--	E	K	8	30	Yes
People, USA	7-12	S	K	8	30	Yes
New Approach to Humanities	10-12	S	F	12	30	Yes
Pennsylvania History	10-12	S	K	32	15	Yes
Revolutions in World Affairs	10-12	S	F	9	30	Yes
Humanities	11	E	F	12	30	Yes
Focus - Foreign Policy	11-12	S	V	15	30	Yes
Russian Civilization	12	S-E	K	26	30	No
Our Economic Pattern	12	E	K	12	30	Yes
Pennsylvania Story	10-12	S	K	8	15	Yes
United Nations Review	--	E	K	15	15	No
State of Washington	9	E	K	8	20	No
Washington History	9	E	K	16	20	No
Utah in Perspective	7-8-9	E	V	18	30	Yes
Foreign Policy	11-12	S	V	15	30	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	--	--	51	Georgia State Dept. of Ed.	WGTV	No
L	--	6210	--	Encyclopaedia Britannica Films	--	Yes
L	--	5945	--	Encyclopaedia Britannica Films	--	Yes
O	--	--	60	University of Houston	KUHT	No
O	--	--	56	Alabama University	--	No
O	--	--	61	Alabama University	--	No
O	--	--	60	Auburn University	--	No
L	--	--	60	McGraw Hill	--	Yes
L	--	--	--	NETRC	--	Yes
O	--	--	57	University of Pittsburgh	WQED	Yes
O	--	--	61	WKNO	WKNO	Yes
O	75	1050	61	KVIE	KVIE	Yes
O	75	1050	60	KVIE	KVIE	Yes
O	--	--	60	Albuquerque Public Schools	KNME	No
O	--	--	61	Cincinnati Public Schools	WCET	Yes
O	--	--	59	Penn. St. Dept. of Pub. Instr.	WHYY	No
O	--	--	61	KQED	KQED	Yes
O	--	--	61	Columbus Public Schools	WOSU	No
L	--	--	--	NETRC	--	Yes
L	--	--	--	NETRC	--	Yes
O	10	80	58	KETC	KETC	Yes
P	--	--	--	McGraw Hill	--	Yes
O	--	--	--	McGraw Hill	--	Yes
L	--	--	60-61	NETRC	--	Yes
O	--	--	56	Allegheny Co. Independent Sch.	WQED	Yes
O	--	--	60	WQED	WQED	Yes
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	7.50	45	--	KCTS-Seattle & King Co. Sch.	KCTS	No
O	15	240	--	KCTS-Seattle & King Co. Sch.	KCTS	No
L	--	--	--	NETRC	--	Yes
O	75	1050	61	KVIE	KVIE	Yes
O	--	--	61	WCET	WCET	Yes
L	5	--	--	NETRC	--	Yes
O	5	--	--	NETRC	--	Yes
O	--	--	56	--	--	Yes
L	--	--	--	NETRC	WGBH	Yes
O	--	--	58	Allegheny County Schools	WQED	Yes
L	--	--	--	Pittsburgh Public Schools	WQED	Yes
L	--	--	--	Encyclopaedia Britannica Films	--	Yes
O	--	--	60-61	21-inch Classroom	WGBH	No
O	15	350	58-59	WHA	WHA	Yes
O	--	--	58-59	Orleans Parish School Board	WYES	No
O	--	--	57	University of Pittsburgh	WQED	No
L	--	--	--	NETRC	--	Yes
O	10	80	--	--	KCTS	--
O	10	160	--	--	KCTS	--
O	--	--	61	Utah State Dept. of Education	--	No
O	--	--	61	21-inch Classroom	--	No

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
SECONDARY (7-12)						
SOCIAL STUDIES						
Humanities	11	E	F	4	120	No
American Government	7	S	V	128	30	Yes
Geography	6-7-8-9	S	V	14	20	Yes
Missouri Constitution	8-9	S	K	14	20	Yes
Workshop	7-12	S	K	8	30	Yes
Spotlight on You	7-12	S	K	7	30	Yes
Louisiana Today	7	E	K	9	30	Yes
Careers	9	S	K	25	25	Yes
Driver Education	9	S	K	10	25	Yes
Training and Placement	12	S	K	17	25	Yes
OTHERS						
Learning to Study	10-12	S	K	4	15	No
Learning to Type	10-12	T	K	13	30	No
Driver Education	9-12	E	K	30	30	No
Home Economics Sewing	9-12	T-S	F	22	30	Yes
Vocational Guidance	10-12	E	V	14	30	Yes
Art of the Theatre	--	E	K	10	30	Yes
Driver Education	10-12	S	V	36	30	Yes
Respice et Prospice	10-12	S	K	8	15	Yes
On Stage	10-12	S	K	8	30	Yes
Gateway to Business	7-12	S	K	8	15	Yes
Drama	10-12	E	F	4	120	No
Boston Symphony Orchestra	10-12	E	V	4	60	No

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
P	--	475	61	Encyclopaedia Britannica Films	--	Yes
L	--	--	61	Learning Resources Institute	--	--
O	--	--	60	KETC	KETC	Yes
O	10	140	58	KETC	KETC	Yes
O	--	--	56	--	--	Yes
O	--	--	55	--	--	Yes
O	--	--	59-60	Orleans Parish School Board	WYES	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	--	--	60-61	Minneapolis Public Schools	KTCA	No
O	--	--	58-59	Minneapolis Public Schools	KTCA	No
O	7.50	30	--	KCTS-Seattle & King Co. Sch.	KCTS	No
O	15	195	--	KCTS-Seattle & King Co. Sch.	KCTS	Yes
E	5	150	60	NETRC	--	Yes
L	--	--	59	Iowa State	--	Yes
E	--	--	61	WENH	WENH	Yes
L	5	--	--	University of Nebraska	--	Yes
O	--	--	--	WQED	WQED	Yes
O	--	--	57	Allegheny Public Schools	WQED	No
O	--	--	55	--	WQED	No
O	--	--	56	Pittsburgh Public Schools	WQED	No
O	--	--	--	NETRC	--	Yes
L	--	--	60-61	Boston Symphony Orchestra	--	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
COLLEGE						
AGRICULTURE						
Agricultural Economics	--	T	V	45	45	No
Agriculture in the Economy	--	T	V	34	45	No
BUSINESS						
Introductory Accounting	14	S	V	56	45	Yes
Economics	--	S	V	45	30-50	Yes
Accounting	--	T	V	82	45	Yes
Salesman to Salesman	--	E	K	8	29	Yes
Advertising Principles and Practices	--	T	V	34	45	No
Production Management	--	E	K	10	30	No
Introduction to Personnel Work in Industry (Business 271)	13-14	T	K-V	30	45	No
Fundamentals of Accounting	13-14	T	K-V	45	30	No
Typewriting	13-14	T	K-V	39	30	No
Salesmanship	13-14	T	K-V	30	45	No
Pittman Shorthand	13-14	T	K-V	45	30	No
EDUCATION						
*American Public Education 380	14	T	V	15	30	No
Foundation of Modern Education	14	S	V	36	29	No
American Public School 151-256	13-14	T	K-V	30	45	Yes
Overview of Human Relations Problems (280-380)	13-14	T	K-V	30	45	Yes
FINE ARTS						
Music 100	--	T	V	30	30	Yes
Graphic Arts	--	T-E	K	48	30	Yes
Two Centuries of Symphony	--	E	K	20	30	No
LANGUAGE						
Literature for Children Education 302	14	T	V	31	30	No
English 101	13	T-S	V	16	30	No
English 102	13	T-S	V	16	30	No
Effective Reading and Study	13	S	V	22	45	No
Craft of Writing	--	R	V	20	30	Yes
Some Methods of Study	--	R	V	4	30	Yes
Shakespeare's Plays	--	T	K	30	30	Yes
English Literature	--	T	K	45	30	No
Library Science	--	S	V	27	50	No
French - 1st year	13	T	V	87	30	Yes
English Life and Literature (English 30 and 40)	--	T	V	34	45	No

* Post-Graduate

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	--	--	60-61	University of Missouri	KOMU	Yes
O	--	--	61	University of Missouri	KOMU	Yes
O	--	--	60-61	University of Houston		No
O	--	--	59-60	University of Illinois	WILL	Probably
O	--	--	59-60	University of New Mexico	KNME	No
O	--	--	59-60-61	University of Cincinnati	WCET	Yes
O	--	--	61	University of Missouri	KOMU	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	60-61	Wayne State University	WTVS	No
O	--	--	61	University of Nebraska	KUON	Yes
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	58-59	University of Utah	--	Yes
O	--	--	58-59	NETRC	--	Yes
O	--	--	59	NETRC	--	Yes
O	--	--	60-61	Wayne State University	WTVS	No
O	--	--	60-61	Florida State University	WFSU	Yes
O	--	--	60-61	Florida State University	WFSU	Yes
O	--	--	59-60	University of Houston	--	Yes
O	--	--	--	Miami University, Oxford,Ohio	--	No
O	--	--	--	Miami University, Oxford,Ohio	--	No
O	--	--	58-59	University of Utah	--	Yes
O	--	--	57	University of Alabama	--	No
O	--	--	60-61	University of Illinois	--	Probably
E	--	--	57-61	University of Florida	WEDU	Yes
O	--	--	60-61	University of Missouri	KOMU	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
COLLEGE						
LANGUAGE						
Public Speaking	--	T	V	34	45	No
Basic Grammar	--	T	K	30	30	No
Functional Italian	--	E	K	10	30	No
Introduction of Poetry	--	E	K	12	30	No
Medieval Romances	--	E	K	12	30	No
Shakespearean Imagination	--	T	V	15	30	Yes
Sense of Poetry	--	E	K	8	30	No
Wrath of Achilles	--	E	K	8	30	No
French I	--	T	V	52	30	Yes
Magazine Writing	--	T	V	30	30	No
English Literature 55	15	S	V	32	45	Yes
English Literature 56	14	S	V	32	45	Yes
Elementary German	13-14	T	K-V	45	30	Yes
World Literature	13-14	T	K-V	45	30	Yes
Elementary French 101	13-14	T	K-V	30	45	Yes
Shakespeare 211	13-14	T	K-V	30	45	Yes
Literature 113 (Fiction)	13-14	T	K-V	30	45	Yes
Reading Improvement	13-14	T	K-V	30	30	Yes
English 101	13-14	T	K-V	46	30	Yes
Elementary Russian 101	13-14	T	K-V	45	30	Yes
Elementary Spanish	13-14	T	K-V	45	30	Yes
American Literature	13-14	T	K-V	45	30	Yes
English 102	13-14	T	K-V	45	30	Yes
MATHEMATICS						
Teaching of Arithmetic 305	14	T	V	31	30	No
Modern Algebra	--	T	K	80	30	Yes
Computer Age Mathematics	13	T	K-V	15	30	Yes
Mathematics	13	T	V	30	30	No
Contempory Mathematics 1	--	T	K	75	30	No
Mathematics 400	--	S-R	K	45	30	Yes
Beginning Slide Rule	--	T	K	18	30	Yes
Technical Mathematics I	--	T	K	35	30	Yes
Technical Mathematics II	--	T	V	31	30	Yes
Plane Trigonometry	13	T	F	28	45	Yes
Slide Rule	--	T	K	20	30	Yes
Trigonometry	--	T	V	30	45	Yes
College Algebra	--	T	V	30	45	Yes
Mathematics	--	T	K	160	29	Yes
Plane Trigonometry	--	T	K	41	30	No
Mathematics 16	13	S	V	32	45	Yes
Mathematics 45	--	S	V	48	30	Yes
Mathematics	13	T	K	64	30	Yes
Mathematics	13	T	K	80	30	Yes
Slide Rule	13-14	T	K-V	15	30	Yes
Fundamentals of Mathematics 101	13-14	T	K-V	46	30	Yes
College Algebra	13-14	T	K-V	45	30	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	--	--	61	University of Missouri	KOMU	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	60	WGBH	WGBH	Yes
O	--	--	57	NETRC	--	Yes
O	--	--	58	NETRC	--	Yes
L	--	--	59-61	University of Florida	WJCT	Yes
L	--	--	59-61	University of Florida	WJCT	Yes
O	--	--	61	University of Detroit	--	No
O	--	--	60	University of Detroit	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	60-61	Wayne State University	WTVS	No
L	--	--	60	NBC	--	Yes
O	--	--	61	WGBH	WGBH	Yes
O	--	--	60-61	Memphis State University	WKNO	No
L	--	--	60-61	NBC	--	Yes
	--	--	58	Ohio State University	WOSU	
O	--	--	57-59	Milwaukee Adult Night School	--	Yes
O	--	--	60-61	Massachusetts Inst. of Tech.	--	No
O	--	--	61	Massachusetts Inst. of Tech.	--	No
O	--	--	57-60	University of Houston	--	No
O	15	300	58-59	University of Utah	--	Yes
O	--	--	60	Oregon St. Coll.-Gen. Ext. Div.	--	Yes
O	--	--	60	Oregon St. Coll.-Gen. Ext. Div.	--	Yes
E	--	--	59-60	Learning Resources Institute	--	Yes
O	--	--	--	University of Washington	--	Yes
O	--	--	60-61	University of Detroit	--	No
O	--	--	60	University of Detroit	--	No
O	--	--	58-60	Wayne State University	--	No
O	--	--	56	Washington Univ. - St. Louis	--	Yes
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
COLLEGE						
PHILOSOPHY						
New Testament Literature	--	T	K	32	45	Yes
Humanities	--	T	V	64	60	Yes
Humanities	--	S	V	30	30	Yes
From Marx to Mao	--	E	K	10	30	No
Humanities 201	14	T-S	V	32	45	Yes
Humanities	--	T	V	90	30	No
Philosophy 60	15	S	V	32	45	Yes
Philosophy 64	15	S	V	32	45	Yes
Philosophy 330	14	T	V	39	45	No
Humanities	14	T	V	75	30	No
Humanities 201	13-14	T	K-V	45	30	Yes
Humanities 202	13-14	T	K-V	30	45	Yes
Problems in Philosophy	13-14	T	K-V	30	45	Yes
General Anthropology	13-14	T	K-V	30	45	Yes
PSYCHOLOGY						
Educational Psychology	--	T	V	20	50	Yes
Foundations of Human Behavior	--	T	V	20	50	Yes
General Psychology	--	T	V	34	45	No
Fundamentals of Psychology	--	E	K	10	30	No
Psychology	13	T	K	32	30	No
Psychology One	--	T-E	K	37	30	No
Psychology 200	14	T	V	29	30	No
First Course in Psychology	--	T	K	75	30	No
SCIENCE						
Geology 107	13	T-S	V	43	30	No
Health Education	--	S	V	8	30	Yes
Zoology 401	--	S	V	40	30	Yes
General Biology	13	T	F	56	45	Yes
Zoology 11 and 12	--	T	V	20	50	Yes
Physiology 21 and 22	--	T	V	20	50	Yes
Hygiene	--	T	K	20	50	Yes
General Chemistry	--	T	K	60	50	Yes
Biological Science	--	S	V	20	30	Yes
Biology 100	13	T	V	39	45	No
Chemistry 105	13	T	V	61	45	No
Biology 102	13	T	V	30	45	No
Principles of Genetics	14	T	F	48	30	Yes
Biology 101	13-14	T	K-V	45	30	Yes
Biology 102	13-14	T	K-V	45	30	Yes
Physical Science 101	13-14	T	K-V	45	30	Yes
Fundamentals of Astronomy 201	13-14	T	K-V	45	30	Yes
Physical Science 102	13-14	T	K-V	45	30	Yes
Atomic Age Physics	--	T	K	80	30	Yes
Physics	--	T	K	170	30	Yes
Chemistry	--	T	K	170	30	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	--	--	59-60	University of North Carolina	WUNC	Yes
O	--	--	59-60	University of New Mexico	KNME	No
E	--	--	59-61	Florida ETV Commission	WTHS	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	60-61	Florida State University	WFSU	Yes
L	--	--	59-61	University of Florida	WJCT	Yes
O	--	--	61	University of Detroit	--	No
O	--	--	60	University of Detroit	--	No
O	--	--	60-61	Wayne State University	WTVS	No
O	--	--	60-61	Wayne State University	WTVS	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Miami University-Oxford, Ohio	--	No
O	--	--	--	Miami University-Oxford, Ohio	--	No
O	--	--	61	University of Missouri	KOMU	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	58-59	Wayne State University	WTVS	No
O	--	--	57-58	NETRC	--	Yes
O	--	--	60-61	Wayne State University	WTVS	No
O	--	--	59-60	College St. Catherine	KTCA	Yes
O	--	--	60-61	Florida State University	WFSU	Yes
O	--	--	58-59	Ohio State University	WOSU	No
O	--	--	60-61	Ohio State University	WOSU	No
O	--	--	57-60	University of Houston	--	No
O	--	--	--	Miami University-Oxford, Ohio	--	No
O	--	--	--	Miami University-Oxford, Ohio	--	No
O	--	--	58	Oregon State College	--	Yes
O	--	--	58	Oregon State College	--	Yes
E	--	--	59-60	Florida ETV Commission	WTHS	Yes
O	--	--	59-60	Wayne State University	WTVS	No
O	--	--	60-61	Wayne State University	WTVS	No
O	--	--	60-61	Wayne State University	WTVS	No
L	--	--	59-60	McGraw-Hill	--	Yes
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
E	--	--	58-59	NBC	--	Yes
L	--	--	58-60	NBC-LRI	--	Yes
L	--	--	59-60	NBC-LRI	--	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

COLLEGE

SOCIAL SCIENCE

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
American History (Colonies to Civil War)	--	T	K	30	30	Yes
Sociology	--	S	V	90	30-50	No
International Relations	--	T	V	34	45	No
American Government	--	T	V	34	45	No
American History	--	T	V	34	45	No
General Sociology	--	T	V	34	45	No
French Revolution	--	E	K	12	30	No
Anatomy of Revolution	--	T	K-V	15	30	Yes
Constitution and Human Rights	--	T-E	K	16	30	Yes
American History 46	13	S	V	48	30	Yes
American History 45	13	S	V	48	30	Yes
Russian Civilization	--	S-E	K	26	30	No
Problem in Human Relations	13-14	T	K-V	30	45	Yes
National Government	13-14	T	K-V	30	45	Yes
Social Science 101	13-14	T	K-V	45	30	Yes
History of the American People for 1865	13-14	T	K-V	30	45	Yes
Social Science 102	13-14	T	K-V	45	30	Yes

IN-SERVICE TEACHER TRAINING

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
French I	4	T	V	30	30	Yes
French I	5	T	V	30	30	Yes
French for Teachers		T	V	32	30	No
German for Teachers		T	V	32	30	No
In-Service Art		T	K	2	30	Yes
Art	K-6	--	K	9	30	No
Arts for Me, Too		E	V	10	30	Yes
ABC of the Piano Keyboard		T	K	8	30	Yes
Foundation of Arithmetic		T	V	16	30	Yes
Arithmetic for Teachers		T	V	16	30	Yes
High School Mathematics		T	K	24	45	Yes
In-Service Science	7-9	T	K	17	25	No
Basic Physical Science		T	F	--	30	Yes
World Geography		T	F	--	30	Yes
Music Classes		T	F	--	30	Yes
*Wisconsin A-V Series		T	K	42	30	Yes

*Post-Graduate course

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	Broadcast by Station	Available for Use
O	15	450	59-60	University of Utah	--	Yes
O	--	--	59-60	University of Illinois	--	Yes
O	--	--	60-61	University of Missouri	KOMU	Yes
O	--	--	61	University of Missouri	KOMU	Yes
O	--	--	61	University of Missouri	KOMU	Yes
O	--	--	61	University of Missouri	KOMU	Yes
O	--	--	--	University of Washington	KCTS	Yes
O	--	--	60	NETRC	--	Yes
O	--	--	57-61	NETRC	--	Yes
O	--	--	61	University of Detroit	--	No
O	--	--	60	University of Detroit	--	No
O	15	350	58-59	WHA	WHA	Yes
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
O	--	--	--	Chicago Board of Education	--	No
L	--	--	59-60	NETRC	WGBH	Yes
L	--	--	60-61	NETRC	WGBH	Yes
O	--	--	60-61	Detroit Public Schools	WTVS	No
O	--	--	60-61	Detroit Public Schools	WTVS	No
O	--	--	59-60	New Orleans Public Schools	WYES	No
O	15	135	60-61	KCTS-Seattle & King Co. Sch.	KCTS	Yes
O	110	1100	59-60	KVIE	KVIE	Yes
O	--	--	57-58	New Orleans Public Schools	WYES	No
P	--	--	60-61	Detroit Public Schools	WTVS	Yes
E	--	--	60-61	University of Florida	WEDU	Yes
O	--	--	59	Northwestern University	WGBH	Yes
P	--	--	58-59	Penn. Dept. of Pub. Instr.	--	No
L	--	--	--	Indiana State Teachers College	WQED	Yes
L	--	--	--	Indiana State Teachers College	WQED	Yes
O	110	1100	59-60	KVIE	KVIE	Yes
E	No charge NDEA		59-60	Univ. of Wisconsin-Sch. of Ed.	--	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
ELEMENTARY - SECONDARY						
FINE ARTS						
Mirror of Western Art	8th+	E	V	9	30	No
Music	4-5	S	V	34	30	Yes
Art	5-6	S	V	12	30	Yes
Art	3-4	S	V	11	30	Yes
Art	1-2	S	V	11	20	Yes
Music	4-8	S	K	28	30	Yes
Music for Young People	2-6	S	V	32	30	Yes
The Public Arts	10-12	S-E	K	10	29.5	No
Mansions of Man (Arch.)	10-12	S-E	K	10	29.5	No
Haydn to HiFi	10-12	S-E	K	8	29.5	No
LANGUAGES						
Spanish	3	S	V	67	15	Yes
Spanish	5-6	T	K	20	29.5	Yes
Literature	3-4	E	K	56	30	Yes
English	3-6	S	F	48	15	Yes
Spanish	5-6	T	K	24	30	Yes
Spoken French	9-12	S	K	23	28	No
Speak Up	10-12	S-E	K-V	15	29	No
Legacy (Literature and Arts)	10-12	S-E	K-V	10	29.5	No
MATHEMATICS						
Elementary Algebra	9	T	V	160	30	No
Plane Geometry	10	T	V	160	30	No
College Algebra	12	T	V	80	30	No
Physics	11-12	E	K	96	29	Yes
Slide Rule	9-12	T	K	22	29	Yes
Man the Maker (Engineering)	10-12	S-E	K-V	15	29.5	No
SCIENCE						
Science Close-Up	8th +	E	K	13	30	No
Science	5	S	V	36	30	Yes
Discovery	6-9	S	V	19	30	No
The Nuclear Age	10-12	S-E	K-V	15	29.5	No
Challenge of Capitalism	10-12	S-E	K-V	10	29.5	No
Science-Quest and Conquest	10-12	S-E	K	20	29.5	No
Frontiers of Health	10-12	S-E	K	30	29.5	No
Biology	11	T	F	172	55	No
Performance	9-12	S	V	18	30	No

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	CC-Closed Circuit O-Open Circuit CS-Commercial Station	Available for Use
O	--	--	60	NETRC	CS	Yes
O	--	--	59-60	Alachua Co. Sch. - Florida	O	Yes
O	--	--	59-60	Alachua Co. Sch. - Florida	O	Yes
O	--	--	60-61	Alachua Co. Sch. - Florida	O	Yes
O	--	--	60-61	Alachua Co. Sch. - Florida	O	Yes
O	--	--	58-59	State University of Iowa	O	Yes
O	--	--	60-61	Brigham Young University	O	Yes
O	7	--	59	University of Michigan	CS	Yes
O	7	--	57	University of Michigan	CS	Yes
O	7	--	56	University of Michigan	CS	Yes
O	--	--	60-61	Alachua Co. Sch. - Florida	O	Yes
O	--	--	60-61	San Diego City Schools	O	--
O	--	--	56-58	State University of Iowa	O	--
L	--	--	58	Language Research Inc.	CC	Yes
L	--	--	58	Language Research Inc.	CC	Yes
O	--	--	59-60	Indiana University	CS	No
O	7	--	60	University of Michigan	CS	Yes
O	7	--	58	University of Michigan	CS	Yes
O	--	--	59-60	South Carolina ETV Center	CC-O	No
O	--	--	59-60	South Carolina ETV Center	CC	No
O	--	--	59-60	South Carolina ETV Center	CC	No
O	12.50	1200	59-60	Auburn University	O	Yes
O	12.50	275	58-59	Auburn University	O	Yes
O	7	--	59	University of Michigan	CS	Yes
O	--	--	58	University of Texas	CS	Yes
O	--	--	60-61	Alachua Co. Sch. - Florida	O	Yes
O	--	--	57-58	Brigham Young University	O	No
O	7	--	60	University of Michigan	CS	Yes
O	7	--	60	University of Michigan	CS	Yes
O	7	--	59	University of Michigan	CS	Yes
O	7	--	55	University of Michigan	CS	Yes
P	--	--	--	Orleans Parish Schools	CC	-
O	--	--	59-60	Brigham Young University	O	No

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
ELEMENTARY - SECONDARY						
SOCIAL STUDIES						
Social Studies	5	S	K	30	30	Yes
Geography	4-6	S	K	28	30	Yes
Our Neighbors Around the World	4-9	E	V	9	30	Yes
South Carolina History	8	T	V	160	30	No
Blessings of Liberty	10-12	S-E	K-V	10	29.5	No
The Western Way	10-12	S-E	K-V	15	29.5	No
Progress of Man	10-12	S-E	K	10	29.5	No
Western Europe	10-12	S-E	K	10	29.5	No
China: The Dragon and the Star	10-12	S-E	K	10	29.5	No
Russia: Faces of a Giant	10-12	S-E	K	10	29.5	No
Bell for Freedom	10-12	S-E	K	7	29.5	No
France: Profile of a Nation	10-12	S-E	K	7	29.5	No
Land to be Free	10-12	S-E	K	8	29.5	No
Government of Michigan	10-12	S-E	K	8	29.5	No
Geography of Conflict	10-12	S-E	K	8	29.5	No
American History	11	T	F	172	55	No
SOCIOLOGY						
Family Living	10-12	S-E	K-V	15	29.5	No
Your Child's First Year	10-12	S-E	K	10	29.5	No
Marriage	10-12	S-E	K	15	29.5	No
Gift of Life	10-12	S-E	K	15	29.5	No
Teen Ager	10-12	S-E	K	15	29.5	No
Genius	10-12	S-E	K	20	29.5	No
OTHERS						
Introduction to Typewriting	7-12	S	K	24	28	Yes
Insurance	10-12	S-E	K	7	29.5	No

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	CC-Closed Circuit O-Open Circuit CS-Commercial Station	Available for Use
O	--	--	60-61	State University of Iowa	O	Yes
O	--	--	55-56	State University of Iowa	O	Yes
O	--	--	60-61	Brigham Young University	O	No
O	--	--	59-60	South Carolina ETV Center	CC	No
O	7	--	60	University of Michigan	CS	Yes
O	7	--	60	University of Michigan	CS	Yes
O	7	--	58	University of Michigan	CS	Yes
O	7	--	59	University of Michigan	CS	Yes
O	7	--	59	University of Michigan	CS	Yes
O	7	--	58	University of Michigan	CS	Yes
O	7	--	56	University of Michigan	CS	Yes
O	7	--	57	University of Michigan	CS	Yes
O	7	--	55	University of Michigan	CS	Yes
O	7	--	57	University of Michigan	CS	Yes
O	7	--	56	University of Michigan	CS	Yes
P	--	--	--	Orleans Parish Schools	CC	-
O	7	--	60	University of Michigan	CS	Yes
O	7	--	58	University of Michigan	CS	Yes
O	7	--	56	University of Michigan	CS	Yes
O	7	--	57	University of Michigan	CS	Yes
O	7	--	54	University of Michigan	CS	Yes
O	7	--	57	University of Michigan	CS	Yes
O	--	--	57-58	Indiana University	CS	No
O	7	--	55	University of Michigan	CS	Yes

RECORDED PROGRAMMING FOR INSTRUCTIONAL PURPOSES

Course Title or Subject	Grade	T-Total Teaching E-Enrichment S-Supplementary R-Remedial	K-Kinescope V-Videotape F-Film	Number of Lessons in Series	Number of Minutes per Lesson	Study Guide
COLLEGE						
FINE ARTS						
Art Appreciation		E	K	8	28	No
Fine Arts		S	F	13	15	No
History of Art Appreciation		T	V	24	30	Yes
LANGUAGES						
German 406		S	V	15	30	Yes
German 407		S	V	15	30	Yes
Spoken Japanese		T	V	30	30	Yes
French 1st year		T	V	90	30	Yes
French 2nd year		T	V	90	30	Yes
Magazine and Feature Writing		T	V	30	30	Yes
Literature of the Western World		E	K	7	28	No
Communication Skills		S	K	26	25	Yes
Children and Books		T	V	12	30	Yes
PHILOSOPHY						
Humanities		T	V	90	30	Yes
PSYCHOLOGY						
Psychology		T	V	28	45	Yes
SCIENCE						
Chemistry 801a		S	K	7	30	Yes
Chemistry 801a		S	V	12	30	Yes
Chemistry 801b		S	V	7	30	Yes
Biology		E	V	9	30	No
Geology 601a and b		S	K	20	30	No
Geology		S	V	30	50	No
Freshman Chemistry		S	V	6	15	No
SOCIAL SCIENCE						
History		T	V	42	30	Yes
Russian Revolutions and Soviet Regime		T	K	31	28	Yes
OTHERS						
Survey of Community		T	V	45	30	Yes
Elementary Shorthand		T	V	42	30	Yes
IN-SERVICE TEACHER TRAINING						
Mathematics (Project)		T	V	25	30	Yes
Teaching English		T	K-V	20	30	Yes
Teaching Science in Elementary Grades		--	K	10	30	Yes
Art of Teaching		T	K-V	18	30	Yes

O-Own Production L-Leased P-Purchased E-Exchanged	Unit Cost	Series Cost	Year Produced	Holder of Title	CC-Closed Circuit O-Open Circuit CS-Commercial Station	Available for Use
O	--		57-58	Indiana University	CS	No
O	--		60-61	Ohio University	CC	Yes
O	--		59-60	Brigham Young University	O	No
O	--	--	60	University of Texas	CC	No
O	--	--	60	University of Texas	CC	No
O	--	--	59	University of Texas	CC	No
O	--	--	60-61	University of Florida	CC	--
O	--	--	60-61	University of Florida	CC	--
O	--	--	60-61	University of Florida	CC	--
O	--	--	58-59	Indiana University	CS	No
O	--	--	57-58	State University of Iowa	CC	Yes
O	--	--	59-60	Brigham Young University	O	No
O	--	--	60-61	University of Florida	CC	--
O	--	--	60-61	University of Texas	CC	No
O	--	--	56	University of Texas	CC	No
O	--	--	59	University of Texas	CC	No
O	--	--	59	University of Texas	CC	No
O	--	--	60-61	University of Texas	CC	No
O	--	--	60	University of Texas	CC	No
O	--	--	59-60	Purdue University	CC	No
O	--	--	59-60	Purdue University	CC	No
O	--	--	60-61	University of Texas	CC	No
O	--	--	58-59	Indiana University	CS	No
O	--	--	60-61	University of Hawaii	CC	--
O	--	--	60-61	Brigham Young University	O	No
O	--	--	60-61	University of Texas	CC	No
O	--	--	60-61	University of Texas	CC	Yes
--	--	--	58	New York Department of Ed.	CC	Yes
O	3.45	62	59-60	Brigham Young University	O	Yes

APPENDIX ____

MIDWEST PROGRAM ON AIRBORNE TELEVISION
MEMORIAL CENTER, PURDUE UNIVERSITY
LAFAYETTE, INDIANA

CURRICULUM OF COURSES:

Elementary level (20 minute telecasts)

- Elementary Music, Grades 1-3
- Elementary Music, Grades 4-6
- English Language Arts, Grades 3-4
- Elementary Science, Grades 3-4
- Elementary Science, Grades 5-6
- Beginning Spanish, Grades 3-6
- Beginning French, Grades 3-6
- Arithmetic, Grade 6
- Arithmetic for Gifted Children, Grades 5-6

Secondary and College levels (30 minute telecasts)

- General Science, Junior High School
- World History, Senior High School
- American History, Senior High School
- American Government, Senior High School
- Biology, College and Advanced High School
- Continental Classroom Modern Chemistry, College and Advanced High School
- Continental Classroom Modern Algebra, College and Advanced High School
- Beginning Russian, College

Teacher Education Materials

Professional assistance to teachers on
the utilization of instructional television

TENTATIVE SCHEDULE - FALL, 1961 Telecasts are simultaneous on UHF Channels 72 and 76.

EST	CST	Monday		Tuesday		Wednesday		Thursday	
		72	76	72	76	72	76	72	76
9:00	8:00	Modern Chemistry	Biology	Modern Chemistry	Biology	Modern Chemistry	Biology	Modern Chemistry	Biology
9:35	8:35	Arithmetic Grade 6	Music Grades 1-3	Arithmetic Grade 6	Music Grades 4-6	Arithmetic Grade 6	Music Grades 1-3	Arithmetic Grade 6	Music Grades 4-6
11:00	9:00	Modern Algebra	American History	Modern Algebra	American History	Modern Algebra	American History	Modern Algebra	American History
10:35	9:35	Science Grades 3-4	Science Grades 5-6	Science Grades 3-4	Science Grades 5-6	Science Grades 3-4	Science Grades 5-6	Science Grades 3-4	Science Grades 5-6
11:00	10:00	College Russian	American Government	College Russian	American Government	College Russian	American Government	College Russian	American Government
11:35	10:35	Spanish Grades 3-6	French Grades 3-6	Spanish Grades 3-6	French Grades 3-6	Spanish Grades 3-6	French Grades 3-6	Spanish Grades 3-6	French Grades 3-6
12:00	11:00	World History	General Science	World History	General Science	World History	General Science	World History	General Science
12:35	11:35	Arithmetic for Gifted Children	Arithmetic Grade 6	Arithmetic for Gifted Children	Arithmetic Grade 6	Arithmetic for Gifted Children	Arithmetic Grade 6	Arithmetic for Gifted Children	Arithmetic Grade 6
1:00	12:00	World History	English Language Arts	World History	Teacher	World History	English Language Arts	World History	Teacher
1:35	12:35	American History	Music Grades 1-3	American History	Materials	American History	Music Grades 1-3	American History	Materials

APPENDIX

NATIONAL SCIENCE FOUNDATION
EDUCATIONAL FILM AND TELEVISION PROJECTS
WASHINGTON 25, D.C.

Under the Course Content Improvement Program of the National Science Foundation, support is provided for the development of high-quality educational films and television presentations by outstanding scientists, assisted by teachers, media experts, and other specialists, under the sponsorship of colleges, universities, and scientific societies. Projects for which support has been granted are listed below. Detailed information can be obtained by applying to the individual project directors or distributors.

SCIENCE

Films on the International Geophysical Year. A series of 13 films on recent developments in astronomy, geophysics, geology and other fields. Produced by Boston Educational Television Station WBGH in cooperation with the U. S. National Committee on the IGY and other agencies.
Distributor: McGraw-Hill Book Company, Text-Film Division,
330 West 42nd Street, New York 36, New York

A series of 20-minute films on recent advances in science. Designed for junior high schools but useful from upper elementary to college levels. Subscribers to the series will receive a new film each month during the school year. First series includes 10 films covering 10 research areas.
Director: Mr. Alfred Butterfield, Horizons of Science,
20 Nassau Street, Princeton, New Jersey

Kinescopes of special enrichment programs for a television science course for grades 5 and 6. Thirty-minute films, color or black and white, on current research. Distribution by National Educational Television and Radio Center, 10 Columbus Circle, New York 19, New York

ANTHROPOLOGY

Films on the culture of South African bushmen. Five long films and fifteen shorter ones are planned. The first, The Hunters, is available from Centennial Films, New York, New York.
Director: Dr. J. O. Brew, Director, Peabody Museum, Harvard University
Cambridge 38, Massachusetts

Films on the ethnology of American Indians. Films recording customs, technologies and ceremonies of Indian tribes in the Western United States. To be completed in 1961 and distributed by the Audio-Visual Center of the University of California, Berkeley.
Director: Dr. William Barrett, Department of Anthropology,
University of California, Berkeley 4, California

BIOLOGY

Two films on the biology of slime molds. To be completed in 1961 and distributed by the Bureau of Audio-Visual Instruction, State University of Iowa.
Director: Dr. T. R. Porter, School of Education, State University of Iowa
Iowa City, Iowa

Two films for introductory college biology. Films on "Speciation," and "Meiosis" will be completed in 1961.
Director: Dr. H. Burr Roney, American Institute of Biological Sciences
2000 P Street, N. W., Washington 6, D.C.

Films for high school and college biology. A series of films emphasizing fundamental biological principles as revealed through the study of plants, animals, and microorganisms in their native environments. Distribution by the Audio-Visual Center, Yeshiva University, New York, late 1961 or 1962.
Director: Dr. Roman Vishniac, Albert Einstein College of Medicine
Yeshiva University, New York 19, New York

Short films for university courses in microbiology. A series of 2- to 10-minute films. Distributed by the Film Production Laboratory, University of California, Berkeley, California and by the Committee on Materials for Visual Instruction in Microbiology, Society of American Bacteriologists, Dr. Harry E. Morton, Chairman, University of Pennsylvania School of Medicine Philadelphia 4, Pennsylvania.
Director: Dr. D. M. Reynolds, Department of Bacteriology
University of California, Davis, California

Films on viruses and their relationship to fundamental studies in biology. A series of eight 30-minute films for television and audio-visual use. Produced by the Virus Laboratory, University of California in cooperation with Station KQED. Distributed by the National Educational Television and Radio Center, 10 Columbus Circle, New York 19, New York.
Director: Mr. E. G. Sherburne, Department of Visual Communications
University of California, Berkeley 4, California

CHEMISTRY

Films demonstrating the construction and use of new models of atoms, ions, molecules and crystals. Designed as teaching aids for chemistry courses. Three films and a booklet on construction directions can be obtained from the Bureau of Audio-Visual Instruction, State University of Iowa.
Director: Dr. R. T. Sanderson, Department of Chemistry, State University of Iowa
Iowa City, Iowa

Films for introductory college courses in chemistry. Short films on demonstrations and films summarizing selected principles. Some may be suitable for secondary-school as well as college instruction. Distribution by the Audio-Visual Center, Yale University, New Haven, Connecticut, beginning in 1961.
Director: Dr. Andrew Patterson, Department of Chemistry, Yale University.

ENGINEERING

Films on fluid mechanics. A series illustrating fundamental principles. Distribution in 1961 by the Bureau of Audio-Visual Instruction, State University of Iowa.
Director: Dr. Hunter Rouse, Iowa Institute of Hydraulic Research, State University of Iowa
Iowa City, Iowa

Films on fluid mechanics. A series illustrating basic experimental approaches. Distribution in 1961 by the St. Anthony Falls Hydraulic Laboratory.
Director: Dr. Lorenz G. Straub, St. Anthony Falls Hydraulic Laboratory
University of Minnesota, Minneapolis 14, Minnesota

Films on moisture movement in wood. Distribution in 1962 by the New York State University College of Forestry.
Director: Dr. W. M. Harlow, State University College of Forestry, Syracuse 10, New York

MATHEMATICS

Experimental film-lectures on mathematics for high schools and colleges. A three-film series on limits and a two-film series on mathematical induction have been completed and are available for limited trial use.
Director: Dr. H. M. Gehman, Mathematical Association of America
University of Buffalo, Buffalo 14, New York

Kinescopes of television courses in mathematics for teachers. During the summer of 1960 films for thircourses for teachers of mathematics in elementary and secondary schools were developed by the educational television station of the University of Minnesota. Included were a course on the mathematical background for courses for each of the grades from seven through twelve, and demonstration classes showing how to teach new mathematics courses for grades 7-12 developed by the School Mathematics Study Group. Selected programs will be made available to television stations and educational institutions through the Minnesota State Department of Public Instruction.

Director: Dr. Paul C. Rosenbloom, Minnesota National Laboratory for School Mathematics
State Department of Public Instruction, St. Paul 1, Minnesota

Experimental films on the teaching of arithmetic. New approaches to the teaching of arithmetic in elementary schools. Films to be completed in 1961.

Director: Dr. David Page, University of Illinois Arithmetic Project
University of Illinois, Urbana, Illinois

PHYSICS

Films for a new high school physics course. Approximately sixty films, in which leading physicists present demonstrations and discussions of principles of modern physics. Prepared by the Physical Science Study Committee of Educational Services, Inc., as part of an integrated set of materials for secondary-school physics.

Distributor: Modern Learning Aids, 3 East 54th Street, New York, New York

APPENDIX I

TEACHER CONTRACTS FOR LIVE AND RECORDED INSTRUCTION FOR USE ON TELEVISION

A review of the collected data and the available literature reveals that there are basically four different circumstances under which a teacher renders his services in presenting an instructional program. These are as follows: (1) a live program for local use on television; (2) a live program for regional or national use; (3) a recorded program for local use, and (4) a recorded program for regional or national use.

LIVE PROGRAMMING FOR LOCAL USE

Live programming has been described as a situation whereby an institution or organization with either broadcast and/or closed-circuit television facilities available would have a teacher present a program which is transmitted simultaneously by television to the classroom.

Twenty-six ETV stations reported the ETV teacher had a regular contract with the school system. In general, no extra money was paid to the instructor for preparing and teaching a course over television, although there were arrangements between the teacher and the school system varying from a full release from all other duties to no compensatory time. The released time to teach the course over television seemed to vary according to the size of the burden assumed with the addition of the television teaching and the preparation of the materials. There were cases reported where the teacher was responsible for writing the study guide for the course, providing workshops for associated teachers in the classrooms, coordinating activities related to the course taught, and constructing all materials to be used on the television presentation.

There did appear to be a trend away from release from other duties for the television teacher, because of an underestimating of the amount of work involved in presenting quality instruction for use over television.

Excerpts from letters received and interview reports concerning faculty remuneration show the general trend toward released time as follows:

> "In the past we have subscribed to giving a 3 to 1 reduced load for teaching a course on television."
>
> "The pay scale for teaching on television is twice the fee paid for teaching courses in the evening."
>
> "A grant has enabled us to give all faculty members full time to teach one course on television."
>
> "No additional salary is paid to faculty members for teaching or for appearing on television, which is consistent with a university policy and the released time varies from department in a ratio from 1 to 1, to 3 to 1."
>
> "Two hours of teaching load credit is given for every one hour of telecourse credit."

PRINTED GUIDES AND MATERIALS

There were arrangements reported of contracts between teachers and the educational television station or an institution which released a teacher from all rights to guides and printed materials. Other arrangements reported that the producer of the materials had rights to the guides and printed materials, but that all other rights were released to the station or institution.

There were suggestions that royalties for published materials could follow the pattern defined in the publishing industry when the teacher or producer of these guides and printed materials was writing on the employer's time. Since some publications, such as the teacher's guide, have a limited sale and student study guides have a greater volume, it was suggested that an adjustment for an equitable scale would be appropriate. An adjustment was suggested for the various levels of education similar to that reported by workbook and textbook publishing companies, since volume of sales is determined by the group for which the material is intended.

Excerpts from contracts and statements of parties involved, applicable to this area, read as follows:

> "Each teacher signs a release from any claim on the use of the programs."
>
> "All agreements have been informal."
>
> "The contracts are forms relating the details of salary and payments but do not consider rights, royalties, residuals, etc."
>
> "The negatives, kinescopes, guides, etc., of the series are the property of _________________________ school system employing the teacher."
>
> "During the contract year programs are made the talent releases rights for the use of materials."

LIVE PROGRAMMING FOR REGIONAL AND NATIONAL USE

Live programming for regional and/or national use differs in many respects from live programming for local use. Variations exist in the area encompassed, the audience potential, types of station, such as the commercial and/or non-commercial, and such matters as state relationships. Little, if any, uniform pattern exists here.

RECORDED PROGRAMMING FOR LOCAL USE

When the instructional programming is recorded for reuse, a different situation exists for all involved. It was expressed frequently that understanding and reasonableness are necessary on the part of unions, organizations, institutions, and individuals to arrive at rates of pay which are commensurate with the available resources in education.

The majority of the television teachers who were interviewed indicated that they did not expect great financial rewards, but that they did expect some recognition and remuneration when an instructional program was made available for use at ahy time in the future without the presence of the participant.

If the evidence of the reports of the ETV stations and those people interviewed for this study are indicative of the existing situation, there is reason to believe that further study in this area should be made. Twenty-seven stations reported that they did not have any agreements or contracts pertaining to recording and reusing the programming.

Two ETV stations reported a "gentleman's agreement" regarding the reuse of recorded materials, and eight reported that all rights were released by the teacher, in perpetuity, to the institution, station, or employer. One reported the rights were released by the teacher during contract years, with a lump sum payment to be made if the instruction was used after the contract date. Another reported unrestricted use of recorded materials by the institution or employer for a period of ten years with the teacher receiving fifty per cent of royalties above production costs if funds were derived from sale or lease of the recorded material. Still another reported that the rights of the institution prevailed as set forth in detailed form, and one reported all rights were released by the teacher except for commercially sponsored broadcasting. One university having an ETV station reported that all television instructors were paid a token royalty and given released time on a 3 to 1 ratio. This agreement covered a three-year period with the teacher involved receiving a seven cents per student per use compensation the third year and beyond, if the original agreement were renegotiated. The three-year agreement gave the teacher the right to revise, update the program, and ask for its recall.

The excerpts as listed previously in the section on live programming were listed as applicable to recorded materials. Other examples specifically applicable to recorded materials are as follows:

> "I hereby give my consent to __________________ television for complete audio-visual rights for all broadcast use, both commercial and educational, of the recordings to be made of the program or series, and further agree that those rights cover any materials which I furnish."
>
> "The undersigned hereby transfers and assigns to ______________________ the exclusive right to use and authorize to use any and/or all of series produced for all educational purposes and audio-visual, and other similar and dissimilar educational purposes in perpetuity."

"If any or all of the courses that you are teaching on television are filmed, kinescoped, videotaped, or audiotaped, you will release these rights to ______________________."

"One replay of the recorded instruction without compensation to the instructor is justified."

In summary, if instruction is to be reused locally, the faculty should be compensated by released time, and/or salary increases, and/or promotions. If recorded televised instruction is to be used by other institutions, it is believed that faculty should receive some recognition, monetary or otherwise.

INSTRUCTION RECORDED FOR REGIONAL OR NATIONAL USE

The information accumulated reveals that no definite pattern has been developed, feasible for all situations. The state and area educational networks are striving toward some guidelines and soon may have partial solutions. Some of the data reported in the section of recorded instruction for local use apply to this area. One report indicated that the teacher had rights for five years from date of contract. Teachers were to receive fifteen per cent of all monies above cost (including production) as royalty on printed materials, and ten per cent on instruction by videotape, kinescope, and film. The material would probably be distributed by an agency on a cost basis, leaving limited income (if any) for the teacher, with the exception of the possibility of royalties or residuals on the printed materials. Another plan provided the instructor a flat fee royalty if the recorded instruction were sold or leased for regional and national distribution.

Because of the complexity of the problem, it is, therefore, recommended that immediate attention be given to the problems of royalties, compensation, and teacher rights. It is recommended that a planning conference be called, leading towards a workshop or series of workshop-conferences, from which the beginnings of a solution might emerge. Perhaps this conference should be sponsored by the United States Office of Education. American education, through its various organizations, should be represented. The American Association of University Professors, which has conducted certain preliminary investigations, should be represented, as should the other teacher representative organizations. Certainly the educational broadcasting oriented groups (NETRC, NAEB, JCEB, DAVI, and ACE-TV) should also have delegates. Also included should be adequate representation from both legal counsel for educational broadcasting and specialists in copyright law and performer's rights. Inasmuch as Continental Classroom and the Airborne Project have already had to face many of these problems, both LRI and MPATI should be involved. The national commercial broadcasting networks, performers' unions, talent agencies, etc., might well provide resource personnel. The collection of sample contracts and other pertinent data assembled during the present survey would be made available for use.

As recorded televised instruction increases in quantity, the need for clarification grows correspondingly. With no concrete information provided, practitioners are merely ignoring the problem or attempting arrangements without adequate preparation or background. Precedents are being set, some of which could ultimately be harmful.

APPENDIX J

RECORDED PROGRAM SEGMENT SERVICE

It was frequently suggested by respondents to this study that the production and distribution of film clips or recorded program segments be given attention. Presently, there is considerable duplication of this material by every production facility, and many film clips necessary to improve instruction are not readily available. Typical of some of these suggestions regarding the use of audio-visuals for effective educational television programming is the statement by a respondent to the study which reads as follows:

> "We have found that effective educational television has a voracious appetite in terms of visuals. Often a single lesson will include thirty or more visuals including art work, dramatizations, film clips, etc. It would seem that one of the effective approaches to visualization for national impact would be for different foundations and agencies to accept individual responsibilities to prepare film clips in a real professional manner (quality-wise) demonstrating crucial experiments and happenings suitable for use by the "live" teacher in the various television lessons. If this problem was approached in an effort of national proportions, adequate national and/or regional film clip programs could dramatically improve the quality of ETV instructional materials. One of the problems is a lack of really good visuals and the lack of time and facilities to produce them in quantity and quality required to maximize in the manner expected. Short types or film segments could offer a portable supply."

While this area is outside the immediate province of this study, nonetheless a definite relationship exists. The need is sufficiently prevalent to warrant its inclusion in this report. It is therefore recommended that immediate attention be given the problem of establishing a system or systems of distribution and exchange of quality recorded instructional segments. It may well be that the same mechanisms recommended for activation to provide the program exchange be employed here. Pilot centers should address themselves to such a study.